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Sailing the Waves of European Public Health: Exploring a Sea of Innovation
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ABSTRACT SUPPLEMENT

Guest editors: Ricardo Mexia, Sónia Dias, Charlotte Marchandise

Conflicts of interest: None declared.

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Disclaimer

1. INTRODUCTION

We are extremely pleased to present you this abstract supplement for the European Public Health Conference 2024 in Lisbon. Like every year, the scientific programme and this accompanying supplement are the fruits of the labours of the International Scientific Committee, who again had to score a higher number of submissions than in previous years. After last successful conferences, it is wonderful to see that also this year so many public health professionals want to share their latest research and engage in discussions with their peers. As for previous conferences, we are confident that the Lisbon conference will prove to be an excellent platform for scientific exchange and debate.

This supplement to the European Journal of Public Health contains the abstracts of presentations at the 17th European Public Health (EPH) Conference, held in Lisbon from 13-15 November and includes abstracts for presentations for the main part of the conference (plenary sessions, oral presentations, workshops and posters).

For the EPH Conference 2024, we received a record 3.364 abstracts of which a record number of 312 workshops. All abstracts were scored by the members of the International Scientific Committee (ISC) of the EPH Conference. The ISC 2024 consisted of 166 public health experts from 33 countries and was chaired by Prof Sónia Dias. To ensure scientific quality without bias, each abstract was scored by on average 4,45 reviewers, each workshop by 4,69. We are extremely grateful to all ISC members for the hard work this involved. The members of the ISC scoring in 2024 are listed below.

The abstracts were scored on a scale of 1 to 7. The average score of the single abstracts was 4,442. The highest score was 6,600 and the lowest 1,250. The average score of workshops was 4,913. The highest score was 6,400 and the lowest 2,400. Only the highest scoring abstracts are accepted for the EPH Conference. We accepted 171 workshops out of 312 and 2.315 single abstracts out of 3.037 submitted. The EPH Conference Executive Board decided on 10 June 2024 on cut-off points for workshops, oral presentations and poster presentations, resulting in an excellent selection of workshops and presentations, as showcased in this abstract supplement.

Workshops	average score of 5,000 or higher were accepted
Oral presentations (8-minute presentation)	average score of 5,667 or higher were accepted
Pitch presentations (5-minute presentation)	average score of 5,275 or higher were accepted
E-Poster walks (3-minute presentation)	average score of 5,100 or higher were accepted
E-Poster displays (throughout the programme)	average score of 4,000 or higher were accepted

Following these decisions, abstracts were grouped in sessions, sessions in tracks and tracks were linked to the contents of the plenary programme. The programme for EPH Conference 2024 is organised in 16 thematic tracks, that mix workshops and oral sessions.

The 16 thematic tracks are:

A. Innovating Public Health: From Research to Action and Policy
B. Revolutionizing Public Health and Healthcare: AI and Digital Health
C. Health Beyond Borders: Global Health Challenges and Sustainable Solutions
D. Equity in Health: Bridging Gaps to Universal Coverage
E. Environmental Health: Innovating Policies and Practices
F. Fostering our habitat: Climate Emergency, Urban Health
G. Easing the Burden: Responding to the Threat of Chronic Diseases
H. Transforming Health Systems: Strength, Resilience, Efficacy
I. Tackling Infectious Diseases: Epidemiology, Vaccines, Preparedness
K. Empower and Educate: The Future of Health Literacy and Promotion
L. Health Policies: Engaging in Public Debates and Decision-Making
M. Mental Health Matters: Advancements in Public Mental Health
N. Caring for Our Next Generation: Equitable Health from Childhood to Adulthood
O. Inclusive Health: Addressing the Needs of Migrants, LGBTI, and Minorities
P. Data-Driven: Assessments for Informed Policy-Making and Foresight
Q. Building Capacity: Learning and Ethics for the Health Workforce

To accommodate the large number of high-quality workshop submissions, we have introduced an innovative format called Pecha Kucha for selected sessions. Pecha Kucha, or 'chat' in Japanese, is a dynamic presentation style where each presentation consists of 15 slides, each shown for 15 seconds. This format allows for concise and engaging 30-minute sessions, fostering lively discussions and rapid exchange of ideas in smaller breakout rooms with a maximum capacity of 35 people. Thanks to all the panelists who agreed to adjust to this format and be part of this new track!

The posters are on display throughout the whole conference.

As always, the International Scientific Committee members greatly enjoyed reading the submissions, many of them stating that it is a great exercise to learn about new developments in their field of expertise. We hope that you will find this volume equally interesting, and even more so the actual presentations, which promise to be of high quality yet again.

Looking forward to welcoming you all in Lisbon,

Dr Ricardo Mexia, Chair of the 17th European Public Health Conference
Prof Sónia Dias, Chair of the International Scientific Committee of the 17th EPH Conference
Charlotte Marchandise, Executive Director EPH Conference

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- Mr Greg Williams, UK
- Prof Silviya Yankulovska, Germany
- Dr Dineke Zeegers Paget, Netherlands

2. Plenary Sessions

PLENARY 1

Abstract citation ID: ckae144.001
Navigating the AI Wave: Overcoming Barriers and Unleashing the Potential of Artificial Intelligence in Transforming European Public Health

Organised by: WHO Regional Office for Europe, European Observatory on Health Systems and Policies
Moderators: Natasha Azzopardi-Muscat (WHO/Europe), Dimitra Panteli (European Observatory on Health Systems and Policies)
Facilitator: Stefan Buttigieg (EUPHA-DH)

Artificial Intelligence (AI) is not just a future promise but an urgent necessity for modern public health. By providing invaluable insights into disease patterns, therapeutic interventions, and overall public health management, AI has the potential to revolutionise healthcare. To tackle essential public health functions effectively, harnessing AI must become a top priority.

However, there is an urgent need for a cohesive strategy across Europe. Currently, varying readiness levels among European nations regarding AI adoption in health result in uneven progress across the continent. This disparity must be addressed to ensure all countries benefit equally from AI advancements.

Recognising this, the World Health Organization European Regional Office launched a regional report on digital health in 2023. The report evaluated the integration of big data and advanced analytics, including AI, in health systems. Findings revealed that while 60% of Member States have a national data strategy, only 35% have a policy regulating big data and AI in health, and 38% lack both. This highlights a critical gap that must be filled urgently.

Our upcoming session will address these challenges head-on. Organised to provide visionary insights, practical applications, and a landscape view of artificial intelligence in public health, the presentations will be followed by a roundtable discussion in which panellists will delve into practical challenges surrounding AI adoption. They will reflect on the profound impact AI could have on the future of European health systems and offer pragmatic and responsible steps forward, culminating in achievable recommendations for public health professionals.

To enhance the session, we will utilise existing Generative AI tools to provide a real-time summary of the plenary and reinforce the call to action in alignment with panellists' recommendations. This approach ensures that the session discusses the urgent need for AI in public health and actively demonstrates its practical applications.

Moderators:
Natasha Azzopardi Muscat
Director, Division of Country Health Policies and Systems, WHO Regional Office for Europe
Dimitra Panteli
Programme Manager/Senior Health Systems Analyst, European Observatory on Health Systems and Policies

Facilitator:
Stefan Buttigieg
Vice-President, EUPHA Digital health section

Speakers/Panellists:
Martin McKee
Professor of European Public Health, London School of Hygiene & Tropical Medicine, UK
Katharina Ladewig
Director, Centre for Artificial Intelligence in Public Health Research, Robert Koch Institute, Germany
Marco Marsella
Director Digital, EU4Health and Health systems modernisation, Directorate-General for Health and Food Safety (DG SANTE), European Commission
Keyrellous Adib
Technical Officer Data Science and Digital Health, WHO Regional Office for Europe

PLENARY 2

Abstract citation ID: ckae144.002
Global health

Organised by: EUPHA, ASPHER
Moderators: Henrique Barros (ASPHER), Iveta Nagyova (EUPHA)

Global health emphasizes the importance of addressing health challenges that transcend national borders and require strong international collaboration and governance. This concept is grounded in collaborative transnational actions aimed at promoting health for all, reducing disparities, and protecting against threats. Strengthening health systems, public health infrastructure, improving health service delivery, and ensuring equal access to healthcare for all are key focus areas in global health.

This plenary will address several major health challenges and critical issues, such as the rising burden of non-communicable diseases, re-emerging pandemics, environmental threats, and the suboptimal responses of national healthcare systems to manage these challenges. The need to focus on vulnerable and marginalized populations, particularly those affected by migration and ethnicity, will be highlighted. The discussion will also showcase the importance of including ethnic minority and Indigenous people's perspectives in health policy and decision-making processes, as well as addressing the social determinants of health that disproportionately affect these communities.

Central to the discussion on global health is the role of global health policy and diplomacy, focusing on how countries can collaborate to address health threats and challenges, shaping international strategies and frameworks. Innovation, including reverse innovation and the development of evidence-informed policies and effective public health strategies that can be implemented globally and is relevant also in resource-constrained contexts, is another critical aspect in addressing the intersection of health and development. Finally, strong public health leadership is needed to shape practices and policies, as well as fostering the next generation of global health leaders.

The multifaceted nature of global health calls for a comprehensive approach to health—one that integrates policy, leadership, and equity into the core of public health strategies. The integration of health into all policies at the global level is vital for creating supportive environments, policies, services, and communications that promote better health for all.

Moderators:
Iveta Nagyova
President EUPHA
Henrique Barros
President ASPHER

Speakers/Panellists:
Emma Rawson Te Patu
President World Federation of Public Health Associations
Charles Agyemang
Professor of Global Migration, Ethnicity & Health, University of Amsterdam, Netherlands
Agnès Buzyn
Former Minister of Health and Social Affairs, France
Moredreck Chibi
Public Health Innovation Lead, WHO Regional Office for Europe

PLENARY 3

Abstract citation ID: ckae144.003
Tackling Health Inequalities in Times of Crisis
Organised by: EuroHealthNet

Across Europe, people are grappling with a multitude of challenges, spanning from the cost of living to housing, food insecurity, climate change, conflicts, and social unrest. These adversities significantly impact individuals' health and wellbeing, and create the conditions for persisting health inequalities. At the root of these crises are unjust economic systems, in which the privileged few benefit while the majority face difficulties on a daily basis.

Societies across Europe are witnessing rising polarisation and discrimination. Competitiveness and security are emerging as key priorities in the new European political landscape, with health and wellbeing pushed to the sidelines.

Tackling health inequalities in times of crisis requires urgent, targeted action across societal sectors and levels. Education emerges as a crucial equaliser, alongside income and social safety nets. Moreover, effective climate strategies must prioritise the needs of the most vulnerable population groups.

This plenary session lays the groundwork for understanding our contemporary, rapidly evolving landscape and its implications for addressing health inequalities. What lessons can we draw from new approaches across sectors that meet social and health needs, and how can we navigate these challenges – and sail those waves of innovation – to ensure equitable health and social justice for all?

Moderators:
Caroline Costongs
Director EuroHealthNet
Cristina Abreu Santos
Vice-President Instituto Nacional de Saúde Doutor Ricardo Jorge (INSA), Portugal

Keynote speakers:
Fran Baum
The Stretton Institute, The University of Adelaide, Australia (by video message)
Katarina Ivanković Knežević
Director for Social Rights and Inclusion, Directorate-General Employment, Social Affairs and Inclusion, European Commission

Panellists:
Didier Jourdan
UNESCO Chair and WHO Collaborating Centre ‘Global Health and Education’, University of Clermont-Auvergne, France
Jill Litt
Professor of Environmental Health in the Environmental Studies Programme, University of Colorado, USA and Senior researcher, Barcelona Institute of Global Health (ISGlobal), Spain

PLENARY 4

Abstract citation ID: ckae144.004
Harnessing social marketing for interdisciplinary health management: enhancing public health outcomes
Organised by: EHMA

Social marketing in health leverages the principles of traditional marketing to influence behaviours that benefit individuals and communities. It involves using marketing techniques to promote public health initiatives, aiming to change attitudes and behaviours towards healthier choices. By strategically framing health messages, social marketing can effectively reach diverse populations, encouraging them to adopt practices that enhance their wellbeing. This approach not only increases awareness about health issues but also empowers people to take proactive steps in managing their health, ultimately leading to improved public health outcomes.

Showcasing a forward-thinking approach to public health management, this plenary session seeks to shed light on the transformative role of interdisciplinary collaboration in enhancing health outcomes. Recognising that health and wellbeing are influenced by a myriad of actors beyond the healthcare sector, there is a growing imperative to empower professionals from diverse disciplines with health management principles. By effectively 'social marketing' health management to those outside the traditional health sector, such as in architecture, urban planning, construction, education, transportation, and manufacturing, health-oriented decision-making can be seamlessly integrated across these fields.

The session will highlight innovative approaches for engaging non-health stakeholders in decision-making processes, leveraging the expertise of health management and public health professionals. By facilitating a dialogue between health professionals and experts from other sectors, the session will explore the potential and challenges of intersectoral partnerships, and challenge policymakers, health managers, and stakeholders in the health sector to actively engage non-health professionals in their pursuit of improved health outcomes for European citizens.

Case studies from across Europe where interdisciplinary collaborations have led to social programming and infrastructure developments that enhance health and wellbeing will be presented. The case study 'Compassionate leadership' will delve into how organisation leaders can harness their health management capacity to foster a supportive environment that prioritises wellbeing. 'Health-centric design in public spaces' will demonstrate the impact of designing public areas with a focus on health, showcasing how thoughtful urban planning can significantly enhance community health. The third case study, 'Architecture for better health and healing' will highlight the role of architectural design in promoting health and recovery, emphasising the importance of creating spaces that support healing. Finally, 'Educating to health' will underline the significance of educating young people to healthy habits, sustainability, and physical and mental wellbeing, illustrating how this can lead to healthier communities. By fostering broader interdisciplinary collaboration, it is possible to unlock innovative solutions to health challenges and ultimately create healthier, more resilient communities across Europe.

Moderator:
Tiago Correia
Instituto de Higiene e Medicina Tropical, Universidade NOVA de Lisboa, Portugal, and Board Member of the EHMA

Speakers/Panellists:
Marina Macchiaiolo
Rare Diseases and Medical Genetics Unit, Bambino Gesù Children's Hospital, Italy, and President of the Italian Committee for the United World Colleges
Stefano Capolongo
Department of Architecture, Construction Engineering and Built Environment (ABC), Politecnico di Milano, Italy

PLENARY 5

Abstract citation ID: ckae144.005
One Health in Europe: from concept to practice

Organised by: European Commission, ECDC
Moderator: Ricardo Mexia (Chair of the 17th EPH Conference 2024)

The One Health concept is a comprehensive approach that highlights the interconnectedness of human, animal, and environmental health. Understanding these interrelationships is essential for effectively managing and mitigating emerging health threats. This approach emphasizes that health issues arise from a complex web of interactions involving humans, animals, and ecosystems.

Emerging health threats, such as zoonotic diseases (e.g., mpox, Ebola, avian influenza), antibiotic resistance, and environmental degradation, pose significant risks to global health. Zoonotic diseases, which are transmitted between animals and humans, highlight the direct links between animal and human health. The increase in antibiotic resistance, driven by overuse in both human medicine and livestock farming, leads to the rise of resistant pathogens. Environmental issues like climate change, deforestation, and pollution further exacerbate these threats by altering habitats, disrupting ecosystems, and affecting disease vectors.

Addressing these interconnected challenges requires a unified approach that integrates human, animal, and environmental considerations. For example, climate change can shift the distribution of disease vectors like mosquitoes, leading to the spread of diseases such as malaria and dengue fever. Likewise, deforestation can heighten the risk of zoonotic spillover by bringing humans into closer contact with wildlife.

1. To tackle these complex challenges, several measures are crucial:

- Integrated surveillance systems

Developing systems that monitor human, animal, and environmental health data collectively can improve early detection of outbreaks. Sharing information across sectors is a prerequisite for effective identification of emerging threats.

- Strengthening veterinary and public health collaboration

Joint research, surveillance, and outbreak management efforts can lead to a more coordinated approach to health emergencies.

- Promoting One Health education and training

Educating professionals in various fields fosters a collaborative approach to health issues. Training programmes can build a shared understanding of health interconnections.

- Implementing sustainable environmental practices

Adopting sustainable practices to address environmental degradation helps reduce risks associated with habitat destruction and pollution.

- International collaboration and agreements facilitate resource sharing, information exchange, and best practices.

2. To enhance public health strategies within the One Health framework:

- Enhance interdisciplinary research

Promote research on the intersections of human, animal, and environmental health to understand how changes in one area affect others and to develop more effective interventions.

- Foster community engagement

Engage communities to improve the adoption of preventive measures and build resilience against health threats through public awareness and community-based programs.

Leverage technology and innovation

Innovations can offer valuable insights such as data analytics, remote sensing, and genomic surveillance.

In our upcoming plenary session, experts from veterinary and public health sciences will present practical examples on One Health collaboration in Europe and discuss how to address challenges in implementing the approach.

Moderator:
Ricardo Mexia
Chair of the 17th EPH Conference 2024, President EUPHA Infectious diseases control section

Keynote speaker:
Lorena Boix
Deputy Director-General, Directorate General for Health and Food Safety (DG SANTE), European Commission

Speakers/Panellists:
Stef Bronzwaer
Cross-Agency One Health Task Force, European Food Safety Authority (EFSA)
Barbara Häsler
Royal Veterinary College, UK
Susana Guedes Pombo
Chief Veterinary Officer, Portugal, President World Organization for Animal Health (WOAH)
Eva Zažímalová
Member of European Commission's Group of Chief Scientific Advisors, Professor of Plant Anatomy and Physiology, Charles University, Czech Republic

3. Parallel Programme

1.A. Oral presentations: Public health innovations: insights and impact

Abstract citation ID: ckae144.006

Innovations in abortion care in France, Germany and the UK following the COVID-19 pandemic

Céline Miani

C Miani[1], *J Niemann*[2]
[1]School of Public Health, Bielefeld University, Bielefeld, Germany
[2]Institute for Medical Sociology, University Medicine Halle, Halle, Germany
Contact: celine.miani@uni-bielefeld.de

Background: Through an international comparison of health systems and policies, we aim at assessing the contextual and circumstantial characteristics of abortion care innovation in three European countries following the upheaval of the COVID-19 pandemic. The three contrasting care models pre-pandemic constitute an interesting baseline for observing different systems' reaction to health crises.

Methods: We conducted a review of the recent (2020 onward) peer-reviewed and grey literature, including national policy documents and guidelines. We then carried a comparative analysis of innovations implemented during the pandemic and their sustainability post-crisis.

Results: In France and the UK, where abortion care was more accessible before the pandemic than in Germany, a series of innovations were officially introduced to facilitate access during the pandemic. They included teleconsultations and the mailing of abortion medication. Most changes have been sustained since then, contributing to addressing historic and systemic health inequities in terms of access (e.g. due to geography and the existence of "medical deserts"). In Germany, innovations during the pandemic have been crafted by the civil society through NGOs offering for the first time teleabortion services (e.g. Balance Berlin and Doctors for Choice). The legitimation of those practices by professional bodies is still in the making, highlighting the limitations of the catalyst role of crises in the face of cultural barriers and resistance of health systems to innovation.

Conclusions: The COVID-19 pandemic provoked or accelerated innovation in terms of abortion care in France, Germany and the UK. Yet, its sustainability, as well as its scaling up, remains fragile, especially in Germany, where the disruptive approach of civil society organisations has not yet found its way into mainstream health care services.

Key messages:

- International comparison of health systems' reaction to the COVID-19 pandemic in terms of abortion care shows different paths to innovation.
- The sustainability of innovation beyond the first pandemic years pertains to the wider debate on equity in access to abortion care.

Abstract citation ID: ckae144.007

Inequalities in healthy life expectancy and risk factors for poor health in small geographic areas

Nicholas Steel

N Steel[1], *M Saunders*[1], *M Bachmann*[1], *Z Shabuz*[1], *A Dalton*[1], *O Enwo*[1], *J Brainard*[1], *C Jones*[1], *A Burke*[1]
[1]University of East Anglia, Norwich Medical School, Norwich, UK
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Background: Reducing inequality in healthy life expectancy (HLE) is a UK government ambition and requires more detailed knowledge of interrelated morbidity and mortality risks at smaller areas than is routinely available. We assessed HLE and risk factors in small areas.

Methods: We used publicly available data to estimate HLE in 2011 and 2021 at birth and age 65 for males and females for 128 Middle layer Super Output Areas (MSOA) in Norfolk and Waveney, described the distribution using geospatial mapping, and analysed associations with risk factors using linear regression.

Results: Mean HLE at birth was 66.5 years (standard deviation 4.3; range 52.0 to 73.0) for men and 67.5 (3.9; 56.0 to 74.0) for women, and at age 65 was 10.9 years (1.8; 6.0 to 16.0) and 12.2 (1.9; 5.0 to 15.0) respectively in 2021. The range in HLE increased between 2011 and 2021 by 2.8 years for men and 1.6 years for women. HLE was usually lower and risks higher in urban and coastal areas. Lower HLE at area level was associated with lower weekly income, physical inactivity, air pollution, alcohol admissions, living alone as an older person and diet not meeting '5 a Day'. HLE at age 65 in 2021 increased by: 0.2 (95% CI 0.1,0.2) years for men and 0.2 (0.2,0.3) for women for each £10 rise in weekly net income after housing expenditure; 0.1 (0.1,0.2) years for men for each 10 fewer alcohol attributable hospital admissions per 100,000 admissions; 0.66 (0.31,1.00) years for men and 0.53 (0.15,0.91) years for women per 1 μg/m3 less 2.5 mm particulate matter concentration in air pollution; 0.6 (0.2,1.0) years for men and 0.6 (0.1,1.0) years for women for each 10% fewer people being physically inactive (multiple regression).

Conclusions: This innovative approach can be used to monitor risks and inform targeted public health interventions at a local level more relevant to local policy makers. Stronger public health surveillance systems are needed to accurately monitor a wider variety of local data on risks.

Key messages:

- Healthy life expectancy at age 65 varies by over 10 years for men and women between different small geographic areas in an English county, alongside local variation in risk factors for poor health.
- Lower HLE at area level was associated with lower weekly income, physical inactivity, air pollution, alcohol admissions, living alone as an older person and diet not meeting '5 a Day'.

Abstract citation ID: ckae144.008

NCD prevention and control in Kenya: feasibility study of health kiosks in markets "HEKIMA Study"

Marjorie Lima do Vale

S Harding[2], *I Kaduka*[1], *J Olale*[1], *J Mutai*[1], *S Mbuka*[1], *M Bosire*[1], *M Obuya*[1], *D Mitaru*[1], *R Ochieng*[1]
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[2]Kenya Medical Research Institute, Nairobi, Kenya
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Introduction: Non-communicable diseases (NCDs) account for 50% of hospital admissions and 55% of hospital mortality in Kenya. Cardiovascular diseases (CVDs) lead NCD mortality at 14% due to high prevalence of multiple risk factors. Community markets are social institutions with untapped potential for public health. HEKIMA is a multi-phased theoretically driven intervention exploring whether health kiosks in community markets, manned by community health workers (CHWs) and supervised by health centre (HC) nurses, can improve the reach of preventive care to vulnerable communities.

Methods: A mixed methods study in Vihiga County targeting 320 participants aged 15 years and above. Nurses and CHWs were trained to deliver evidence-based CVD health promotion, risk screening, and early intervention. Multi-sector stakeholder consultations, readiness assessments of markets and HCs, and semi-structured interviews informed intervention development. Evaluation use the Re-AIM framework.

Results: At 6 months of intervention there 2224 kiosk users which exceeded target of 300; 61% primary school education; 77% females; median age - males 48y, females 52y. Proportion with high blood pressure, overweight, obesity, and diabetes 48%, 32%, 25% and 12% respectively. 30% were referred to HC, and 34% followed up at least once at the kiosk. High acceptability of HEKIMA among CHWs, nurses and market users led to HEKIMA kiosks being integrated in the primary healthcare pathway. Key enablers were multi-sectoral alliance of government, civic organisations, community market champions, local businesses and health sector; culture centred coproduction and capacity building Challenges included understaffing, commodity supplies and seasonality.

Conclusions: HEKIMA successfully promoted NCD prevention and control, particularly among vulnerable populations. Scaling up across Kenya is planned to explore translational impacts in different contexts.

Key messages:

- Multisectoral alliance critical for prevention of NCDs.
- Theoretically underpinned complex systems interventions addresse inequities.

Abstract citation ID: ckae144.009
Bridging the gap: mapping co-creation methods for public health impact and innovation

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Background: Co-creation offers a promising approach to public health innovation, particularly for tackling complex issues. However, the lack of a standardized methodology limits its reliability and reproducibility, especially across diverse contexts. This study explores co-creation methods used by researchers and practitioners, aiming to shed light on their implications for public health. Understanding this methodological landscape can enhance the effective implementation of co-creation processes to address complex challenges.

Methods: Utilizing the Systematic Methods Overview approach, we examined co-creation methods. Data were gathered from the Health CASCADE Co-Creation Database and grey literature using an artificial intelligence-assisted recursive search strategy and a two-step screening process. We conducted textual, comparative, and bibliometric analyses to evaluate methodological underpinnings and relationships between methods.

Results: Analysis of 2,627 academic articles and grey literature sources identified over 900 co-creation methods. While surveys, focus groups, and group discussions were prevalent, participatory methods were underutilized. Notably, 91.3% of methods co-occurred, with a predominant combination of qualitative approaches. Furthermore, a significant discrepancy between research and practice was evident, with only 10.2% convergence.

Conclusions: This study revealed a critical gap between co-creation in research and practice, emphasizing the need to bridge this methodological divide for advancing co-creation as a reliable approach in public health. The over-reliance on qualitative methods raises concerns about tokenistic engagement and undermines meaningful public participation in co-creation. Addressing this trend is vital to preserve the essence of true co-creation and maximize its potential for addressing complex public health challenges.

Key messages:

- Mapping the diverse methods of co-creation in public health reveals both richness and disparities in approach, from surveys to participatory methods.
- Addressing the discrepancy between co-creation in research and practice is vital for establishing a reliable and effective approach to tackling public health challenges.

Abstract citation ID: ckae144.010
Validation of the NEED assessment framework: an EU level Delphi study

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The NEED (Needs Examination, Evaluation and Dissemination) assessment framework was developed to identify and measure health-related patient and societal unmet needs across different health conditions, supporting the creation of needs-driven healthcare policy and innovation. It includes 25 criteria of needs and 46 related indicators allowing to estimate if the needs are met. The current study aims to validate this framework on the EU level using a modified Delphi approach. The selection of national and European institutes invited to participate in the Delphi process was based on their respective roles; specifically, public health, health technology assessment (HTA), medicine authorisation, pricing and reimbursement (P&R), and patient advocacy. Through a modified Delphi approach, the experts were able to express their opinion on the framework structure (dimensions and domains), health-related needs criteria and indicators. Two Delphi rounds were performed using online questionnaires. Consensus was reached when 85% of the respondents agree or totally agree with a proposal and less than 5% of the respondents totally disagree. A panel of 27 experts participated in the first round of the study. The majority of the experts worked in HTA agencies (39%) and P&R agencies (24%), followed by national medicine authorities (9%) and umbrella patient organisations (9%). Seventeen EU Member States were represented, with a higher representation of experts from Austria, Belgium, France, Germany, The Netherlands, Spain and Sweden. Consensus was reached for 22 out of the 25 criteria and 41 out of the 46 indicators after the first round. The modified Delphi technique was an adequate approach to aid the validation of the NEED framework at the EU level. This represents an important first step in achieving consensus on how to define and identify unmet health-related needs and move towards a more needs-driven healthcare policy and innovation landscape.

Key messages:

- Consensus on the definition and identification of unmet health-related needs is crucial to transform public health innovation.
- Expert consultation by means of the Delphi technique assumed a pivotal role to reach consensus on the NEED framework.

1.B. Round table: Artificial Intelligence in Mobile Health Apps: Ethical, Legal, and Regulatory Challenges

Abstract citation ID: ckae144.011

Organised by: Law Centre for Health and Life (Netherlands)
Chair persons: Hannah van Kolfschooten (Netherlands)
Contact: h.b.vankolfschooten@uva.nl

Globally, governments and public health authorities are integrating Artificial Intelligence (AI) techniques in mobile apps to improve public health. For example, during the COVID-19 outbreak, AI-driven chatbots were deployed to provide immediate health information and advice. AI-based mobile apps are also used to support mental health or for preventive healthcare, such as personalized dietary recommendations. Moreover, the use of generative AI for public health purposes is rapidly increasing. In 2024, the WHO launched S.A.R.A.H - a generative AI chatbot designed to provide information on major health topics such as healthy lifestyles and mental health. By integrating AI, public institutions could potentially achieve better health outcomes, improve efficiency, and enhance access to healthcare. However, the rapid adoption of AI public health apps also raises significant ethical, legal, and regulatory challenges. The large amounts of sensitive personal data collected and processed by such apps may create issues for privacy, data protection, and cybersecurity. At the same time, the tendency of AI to exhibit biases may deepen existing health inequities. The new EU 'digital' legal framework does not directly address these challenges. This workshop aims to convene leading experts working on AI in health to address these issues. We bring together scholars from different disciplines (health law, health policy, bioethics, biosciences). The workshop objectives are twofold: (1) to critically assess the current landscape of AI in public health apps from a legal, ethical, and regulatory point of view, and (2) to lay the groundwork for policy recommendations on how to ensure the deployment of AI apps for public health in compliance with ethical principles and fundamental rights. First, the panel explores the differences in the data protection regulation of AI public health apps in the EU and the US (speaker: James Hazel). Second, it discusses how these apps are regulated under the new EU Artificial Intelligence Act (speaker: Hannah van Kolfschooten). Third, it investigates the consequences of the European Health Data Space regulation on how health data can be processed through public health apps (speaker: Mahsa Shabani). Finally, as the cross-border use of apps complicates regulatory efforts, it discusses the need for international cooperation in establishing and enforcing guidelines (speaker: Vasiliki Rahimzadeh). The workshop will be conducted as a round table discussion with 4 short presentations of 5 minutes each. Speakers first present a key challenge posed by AI in mobile health apps, and then suggest a potential regulatory solution. This will be followed by a dialogue between panelists and the audience to share best practices on how to regulate AI in mobile public health apps from a legal, ethical, and regulatory perspective. The input will be used to develop a submission for the Call for papers of BMC Bioinformatics.

Key messages:

- As public institutions are increasingly integrating AI technologies into their mobile public health solutions, it is crucial to evaluate the ethical, legal, and regulatory implications.
- In light of current gaps in the EU legal framework, we convene scholars from different disciplines and legal systems to design guidelines on the ethical use of AI mobile apps for public health.

Speakers/Panelists:
James Hazel
University of Amsterdam, Amsterdam, Netherlands
Mahsa Shabani
University of Amsterdam, Ghent University, Amsterdam, Netherlands
Hannah van Kolfschooten
University of Amsterdam, Amsterdam, Netherlands
Vasiliki Rahimzadeh
Baylor College of Medicine, Houston, USA
Pramiti Parwani
University of Amsterdam, Amsterdam, Netherlands

1.C. Round table: Navigating the 17th European Public Health Conference: A Guide for First-Time Attendees

Abstract citation ID: ckae144.012

Organised by: EUPHAnxt, EUPHA
Chair persons: Monica Brînzac (EUPHAnxt)
Contact: monica.brinzac@publichealth.ro

Are you attending the European Public Health Conference for the first time? If yes, this session is for you. Join us for an engaging session tailored specifically for first-time attendees of the 17th European Public Health Conference in Lisbon, Portugal. This session aims to provide newcomers with valuable insights and strategies to maximize their experience and effectively navigate the conference.

Our seasoned conference veterans will share practical tips on a range of topics, including, but not being limited to:

1. Conference Navigation: Learn how to navigate the conference programme, the venue efficiently, locate sessions of interest, and make the most of your time between sessions.
2. Networking: Discover the importance of networking in the field of public health and gain strategies for initiating meaningful conversations, building professional relationships, and expanding your professional network.
3. Session Selection: Gain insights into selecting sessions and workshops that align with your interests, career goals, and areas of expertise. Learn how to prioritize your schedule and make the most of concurrent sessions.
4. Poster Presentations: Understand the significance of poster presentations and how to effectively engage with presenters. Discover techniques for synthesizing information and asking insightful questions.
5. Self-Care: Explore strategies for maintaining physical and mental well-being throughout the conference, including tips for managing fatigue, staying hydrated, and finding moments of relaxation amidst the hustle and bustle.

Whether you're a student, researcher, practitioner, or policymaker, this session will equip you with the tools and knowledge needed to navigate the 17th European Public Health Conference with confidence and make the most of this invaluable opportunity for professional development and networking.

Key messages:

- First-time attendee at the European Public Health Conference? Don't miss this tailored session for essential insights and strategies to maximize your experience in Lisbon.
- Join seasoned veterans for practical tips on navigating the conference, networking effectively, selecting sessions, engaging with poster presentations, and prioritizing self-care.

Speakers/Panelists:
Robert Klarecki
EPH Conference Office
Jinane Ghattas
Sciensano, Brussels, Belgium

1.D. Scientific session: Cross national perspectives: the many faces of health inequities

Abstract citation ID: ckae144.013

Organised by: The Commonwealth Fund (USA)
Chair persons: Evan Gumas (USA), Reginald Williams (USA)
Contact: eg@cmwf.org

Health inequities come in different forms in different countries, often times based on country and population demographics, and exist around the world. Ample evidence has revealed how inequities to accessing and utilizing health services can have detrimental consequences for certain populations and exist across numerous strata including geography, income, race and ethnicity, age, and gender. This workshop identifies different examples of inequities across countries, and their impact on health outcomes and health care use. Health inequities, in whichever form, lead to one common outcome: worse health outcomes and lower life expectancy for those who are marginalized by inequities compared to their counterparts. This session will dive into the research on health inequities by geography (rural versus non rural), income (low/average income versus high income), race/ethnicity, and among people with substance use disorder (SUD) particularly those who use and inject drugs with the goal of 1) exposing the stark disparities in health care among these populations; 2) discussing lessons which can be learned and adapted from other countries; and 3) discussing promising solutions and approaches to restoring justice and access to care for all. The panel will be composed of 1 moderator and up to 5 panelists. Panelists are experts in their fields, established researchers and practitioners, and either employees of the Commonwealth Fund or alumni of the Harkness Fellowship from various high-income countries including Canada, Germany, Norway, the United Kingdom, and the United States. A moderator from the Commonwealth Fund will frame the discussion by introducing a deep dive into affordability barriers utilizing the Commonwealth's Fund International Health Policy Survey of nine countries. Munira Gunja, senior researcher on the Commonwealth Fund's International program, will present how a lack of affordability in health care is a growing threat and will likely widen the disparities by income without serious health reforms. Neil MacKinnon, Senior Harkness Fellow from Canada, will continue the discussion focusing on an analysis he and his team at Augusta University completed on disparities in health care by geography in eleven (primarily European) countries. The second panelist, Sidra Khan-Gokkaya, the 2023-2024 Harkness Fellow from Germany, will present on her study of racism in health care in Germany and the U. S. Another of the 2023-2024 Harkness Fellows, Claire Wilson, will present on her research of racial disparities in perinatal mental illness in the U.K. and U.S. Lastly, the fifth panelist, Ane Kristine Finbråten will discuss the unique health needs of those with SUD and the inequities faced by people who use and inject drugs as they navigate health care. Each panelist will speak for roughly 8 minutes, with 20 minutes saved for moderator and audience questions.

Key messages:

- All stakeholders, including patients, public health systems, and health systems benefit when all populations are able to access comprehensive health services.
- Health inequities come in many different forms, and to improve health outcomes, we must address them at all levels.

Abstract citation ID: ckae144.014
The cost of not getting care: income disparities in the affordability of health services across high-income countries

Munira Gunja

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This presentation will present findings from the Commonwealth Fund 2023 International Health Policy Survey of the General Population, focusing on financial barriers in accessing healthcare among adults across 10 countries. It highlights significant income-related disparities in healthcare affordability, particularly in the United States, where nearly a quarter of the population lacks affordable access to care. While disparities exist in other countries, Germany and the Netherlands demonstrate lower rates of affordability issues and income disparities, possibly due to their universal health coverage models and cost-sharing caps based on income levels. These countries also prioritize mental health and dental care within their public health plans. The analysis emphasizes the critical need for affordable and comprehensive healthcare coverage to ensure equitable health outcomes. It suggests that policies such as cost-sharing caps and income-based subsidies could mitigate financial barriers to care, drawing insights from successful models in Germany and the Netherlands. Ultimately, addressing affordability is vital for achieving health equity and improving overall population health.

Abstract citation ID: ckae144.015
Mapping geographic health disparities in 11 high-income nations

Neil MacKinnon

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Health care delivery faces a myriad of challenges globally with well-documented health inequities based on geographic location. Yet, researchers and policy makers have a limited understanding of the frequency of geographic health disparities. In this survey study, we analyzed results from the 2020 Commonwealth Fund International Health Policy (IHP) Survey-a nationally representative, self-reported, and cross-sectional survey of adults from Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the UK, and the US. Eligible adults older than age 18 years were included by random sampling. Survey data were compared for the association of area type (rural or urban) with 10 health indicators across 3 domains: health status and socioeconomic risk factors, affordability of care, and access to care. Across the 11 countries and 10 health indicators and 3 domains (health status and socioeconomic risk factors, affordability of care, access to care), there were 21 occurrences of geographic health disparities. The indicators with the most occurrences of geographic health disparities were in the access to care domain. Differences in number of disparities reported by country suggest that health policy and decision makers in the US should look to Canada, Norway, and the Netherlands to improve geographic-based health equity.

Abstract citation ID: ckae144.016
Racism in health care: systemic changes and institutional policies to advance health equity

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Globally, the COVID-19 pandemic has amplified inequalities in health care. Racism is one cause of such inequalities that disadvantage Black, Indigenous, and people of color around the world, but particularly in Germany, European countries, and the United States. To advance health equity and ensure an equitable health care system for marginalized groups, it is necessary to implement systemic change, but international studies indicate there is little evidence of antiracist interventions in organizations and through policies, as well as limited data on their effectiveness. This presentation will present novel research that identifies antiracist interventions on a systemic level, meaning interventions within organizations will be analyzed. The results from this research will be used to derive recommendations and inspire policymakers and providers toward equity-oriented health care. The overarching goal of the proposed research is to contribute to a paradigm shift in Germany and Europe more broadly and enrich a previously deficit-oriented perspective on the topic with important approaches and solutions. It will also increase the geopolitical relevance of the interventions in the US and enable cross-border exchange and partnerships.

Abstract citation ID: ckae144.017
Exploring racial inequalities in maternal mental health outcomes

Claire Wilson

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Perinatal mental illness affects around 1 in 5 birthing people globally and is associated with adverse outcomes for those affected and their families. Such adverse outcomes are not inevitable and there is now good evidence for a range of both preventive and treatment interventions. There are well-documented inequalities in mental health outcomes across a range of social determinants, including race; such inequalities are also apparent during the perinatal period. There are also racial disparities in mental health care delivery during the perinatal period. Racial inequalities in perinatal mental health are now being recognized as key policy priorities in both the United States and the United Kingdom. This presentation will present routinely collected epidemiological data, investigating the drivers of these racial inequalities in access to perinatal mental health services and associated maternal and child outcomes. It also will present qualitative approaches to exploring current initiatives to reduce inequalities. Findings have the potential to inform the development of culturally sensitive interventions to promote equity in this area for underserved populations in the U.K., U.S., and elsewhere.

Abstract citation ID: ckae144.018
Inequities faced by those with substance use disorder (SUD)

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This presentation delves into the inequities faced by individuals with substance use disorder (SUD), with a particular focus on people who use drugs (PWUD) and people who inject drugs (PWID). Individuals contending with SUD encounter multifaceted barriers that hinder access to appropriate care and support. This presentation will highlight the discourse surrounding biases that exacerbate health disparities among PWUD and PWID. Structural stigma and discriminatory practices not only impede access to healthcare services but also perpetuate social exclusion, amplifying the challenges faced in seeking help and support. PWUD and PWID often require tailored interventions that address not only their substance use but also co-occurring physical and mental health conditions. However, the fragmented nature of healthcare delivery and the lack of integration between substance use treatment and mainstream healthcare services pose significant obstacles to holistic care provision. Drawing on empirical evidence and lived experiences, this presentation explores strategies to dismantle the barriers faced by individuals with SUD in Norway. Ultimately, this presentation aims to foster dialogue that addresses the inequities entrenched in healthcare systems around the world. By advocating for a compassionate and inclusive approach to SUD care, we can strive towards a society where all individuals, regardless of their substance use history, can access the support and resources they need to lead healthy and fulfilling lives.

1.E. Oral presentations: Understanding the health implications of environmental challenges

Abstract citation ID: ckae144.019
Burden of disease due to ambient particulate matter pollution in Germany from 2010 to 2021

Dietrich Plass

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Background: Worldwide, according to the global burden of disease (GBD) study, around 118 million disability-adjusted life years (DALYs) were attributable to ambient particulate matter (PM2.5) in 2019. Further, 97% of Europe's urban population are exposed to annual average levels of PM2.5 above the World Health Organization's guideline value of 5 $\mu g/m^3$. In Germany, considerable efforts have been made to reduce PM2.5-emissions, which resulted in a continuous decrease of exposure. We estimated the burden of disease attributable to PM2.5-exposure in Germany for a time series from 2010 to 2021.

Methods: We used the environmental burden of disease (EBD) methodology developed by the WHO. For the exposure assessment we combined annual average measured and modelled PM2.5-concentrations with information on population density at a 2-by-2 km^2 grid. Using the exposure-response functions from GBD 2019, we estimated the EBD for chronic obstructive pulmonary diseases, type 2 diabetes mellitus, lung cancer, stroke and ischemic heart diseases (IHD). National surveys and register data were used to estimate the baseline burden of disease.

Results: In total, we estimated 232,863 (95%-CI: 153,716-314,882) DALYs attributable to PM2.5 in 2021. We observed a reduction of about 50% compared to 2010. The highest attributable burden was estimated for IHD with 70,197 (95%-CI: 42,609-101,785) DALYs, which is about 8% of the overall IHD-burden. The mortality-to-morbidity ratio revealed that years lost due to death (YLLs) had a higher share (69.9%) of overall DALYs with 162,561 (95%-CI: 106,918-222,567) YLLs.

Discussion: Despite a decreasing trend of the EBD for PM2.5 in Germany since 2010, our results show that there is still a long way to a pollutant free environment as envisaged by the EU's zero pollution ambition. Using EBD as a standardized methodology and the DALYs as the core measure allows to have a comprehensive and comparable overview of the impact of PM2.5 on population health.

Key messages:
- Ambient particulate matter pollution is an important environmental risk factor in Germany.
- The decreasing trends is encouraging but there is still a long way to go to meet the objectives of the EU's zero pollution ambition.

Abstract citation ID: ckae144.020
How ambient NO2 impacts the mortality burden of ischemic heart disease in Portugal (2011-2021)?

Marta Clemente

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Background: Air pollution is a major environmental risk to human health, contributing to premature death and disease. Nitrogen dioxide (NO2) is a pollutant of significant public health concern, associated with increased risks of all-cause mortality, particularly in cardiovascular and respiratory deaths. In 2021, NO2 exposure exceeding the World Health Organization Air Quality Guidelines resulted in 69,000 deaths in the European Union. This study aims to estimate the impact of ambient NO2 exposure on ischemic heart disease (IHD) in Portugal, from 2011 to 2021, estimated in years of life lost (YLL).

Methods: Data on ambient NO2 levels were obtained from the Portuguese Environment Agency's online database QualAr. Only monitoring stations that reported valid data for at least 75% of the time in a year were considered. The number of IHD mortality cases from 2011 to 2021 was sourced from Statistics Portugal. The burden of IHD attributed to NO2 exposure was estimated in YLL for the Portuguese population aged 25 years and older, categorized by five-years age groups, regions of mainland Portugal and sex, using the population attributable fraction (PAF).

Results: Between 2011 and 2021, mainland Portugal experienced a declining trend in NO2 mean levels, with occasional fluctuations. Regarding IHD YLL attributed to NO2 exposure, the same trend was followed with an overall decline over the study period. In total, 94,843.75 (95% CI 53,408.35-134,766.17) IHD YLL were attributed to NO2 exposure, with an estimated number of IHD YLLs higher for males than for females.

Conclusions: These findings underscore the significant impact of air pollution on human health. Despite an overall reduction in YLL across mainland Portugal, persistent health effects emphasize the need to reduce NO2 concentrations, with informed decision-making being crucial to mitigate these impacts and protect public health.

Key messages:
- Ambient NO2 exposure significantly impacts ischemic heart disease mortality in Portugal.
- These estimates underscore the necessity of well-informed decision-making to safeguard public health.

Abstract citation ID: ckae144.021
Health burden and costs attributed to the carbon footprint of health systems in the European Union

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Background: Health systems have an environmental impact of around 4.6% of global emissions, contributing to aggravating the climate crisis. However, the health impact of the carbon emissions originated by health systems is not regularly assessed. We aim to estimate the health burden and associated costs of the carbon footprint of health systems across the European Union (EU).

Methods: We calculated DALYs and associated costs based on human health damage factors (DALYs/kg-CO2e) by considering four scenarios. Three scenarios for shared socioeconomic pathways

(S1 - high growth, S2 - baseline, and S3 - low growth) represented variations of global society, demographics, and economics until 2100. A fourth scenario (S4) considered the current EU's 55% reduction goal of greenhouse gas emissions. The healthcare sector's emissions per capita (in CO2-equivalent) in 2019 were extracted from the Lancet Countdown, and population data were retrieved from Eurostat for the same year.

Results: In the EU, 365,047 DALYs (95%CI: 194,692-535,403) are expected to be caused by health systems' emissions at baseline (S2). In an S1 scenario, the burden would slightly decrease to 315,374 DALYs (95%CI: 170,355-462,393), whereas a S3 scenario would increase 486,730 DALYs (95%CI: 243,365-681,422). If EU's carbon goals are met, the burden could be substantially reduced to 164,271 DALYs (95%CI: 87,611-240,931). The monetisation of DALYs can result in costs amounting to 25.6 billion euros.

Conclusions: CO2 emissions from health systems are expected to significantly impact human health. It is therefore of the utmost importance to ensure that EU climate policies for healthcare buildings are in line with the Paris Agreement. This will require the implementation of climate mitigation programmes within the health sector and a review of clinical practices at the local level.

Key messages:

- The carbon footprint of health systems is estimated to significantly impact health, with high economic burden.
- EU climate policies for healthcare buildings and procurement must be aligned with the Paris Agreement.

Abstract citation ID: ckae144.022
Better together: a program to increase the public health corps in the southeast United States

Sarah Kershner

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Background: This undergraduate public health program implemented in the southeastern United States addresses the need for an expanded public health corps to fill health service gaps underscored by the Covid-19 pandemic, including a shortage of personnel with the skill to function on emergency frontlines; workforce development resources; and socially just healthcare programs to support under-resourced areas.

Objectives: To enhance student knowledge of public health and increase volunteers available for emergency and public health response within local, state, and global communities. After program participation, how confident did participants feel that they could know what to do in the case of an emergency? After program participation, how knowledgeable did participants feel that they would know what to do to protect others in the case of an emergency? After program participation, how aware were participants about the issue of public health response and preparedness?

Results: 216 students were recruited at a university in the southeastern United States, and 75% completed 30 hours of modules, immersion activities and skill-based trainings. Almost all (91%) were pre-nursing/nursing or public health majors. The majority of participants (90%) indicated a level of agreement with the statement, "I am confident that I know what to do in the case of an emergency" and 93% indicated a level of agreement with the statement, "I would know what to do to protect others in the case of an emergency". Almost all participants (96%) indicated a level of agreement with the statement, "My awareness of public health response and preparedness has increased due to participation in the project". Qualitative results mirrored a similar strong level of support for the program.

Conclusions: Students who complete appropriate training play an essential role in pandemic management and the broad training the medical workforce receives can also be applied to diverse disaster scenarios.

Key messages:

- The goal of the project was to enhance undergraduate student knowledge of public health.
- The secondary goal of the project was to increase the number of students available to volunteer for emergency and public health response in local, state, and global communities.

Abstract citation ID: ckae144.023
How was the impact of heatwaves on daily hospital admissions in Portugal (2000-2018)?

Ana Margarida Alho

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Background: Climate change has increased the frequency, intensity, and duration of heatwaves, posing a serious threat to public health. While the link between high temperatures and premature mortality has been extensively studied, the comprehensive quantification of heatwave impacts on morbidity remains understudied.

Methods: We assessed the relationship between heatwaves and daily hospital admissions at a county level in Portugal, considering all major diagnostic categories and age groups, over a 19-year period from 2000 to 2018. Our nationwide study included a comprehensive geospatial analysis, integrating over 12 million hospital admission records with heatwave events indexed by the Excess Heat Factor (EHF), covering all 278 mainland counties. To estimate the impact of heatwaves on hospital admissions, we applied negative binomial regression models at both national and county levels.

Results: A statistically significant overall 18·9% increase in daily hospital admissions was found during heatwave days (IRR=1·189, 95% CI: 1·179-1·198). This impact affected all age groups, with pediatric ages being the most affected (21·7%), followed by the working-age (19·7%) and elderly individuals (17·2%). All 25 Major Disease Diagnostic Categories experienced significant increases, particularly Burns (34·3%), Multiple Significant Trauma (26·8%), and Infectious and Parasitic Diseases (25·4%). Notable rises were also observed in Endocrine, Nutritional, and Metabolic (25·1%), Mental (23%), Respiratory (22·4%), and Circulatory (15·8%) diseases.

Conclusions: Our results provide statistically significant evidence of the association between heatwaves and increased hospitalizations across all age groups and for all major causes of disease. This is the first study to estimate the full extent of heatwaves' impact on hospitalizations using the EHF index over a comprehensive 19-year period, encompassing an entire country, and spanning 25 disease categories during multiple heatwave events.

Key messages:

- There is a clear association between heatwaves and increased hospital admissions across all age groups and Major Diagnostic Categories.
- Our data offer crucial information to guide policymakers in effectively and efficiently allocating resources to address the profound healthcare consequences resulting from climate change.

1.F. Pitch presentations: The impact of climate change on health

Abstract citation ID: ckae144.024
Association between gender inequality and climate adaptation across the global

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Introduction: Climate change has a disproportionate impact on women in comparison to men and women have a key role to play in climate adaptation. However, evidence is lacking on how gender inequalities may be associated with climate vulnerability and ability to respond at country level.

Methods: This ecological study investigated the association between climate adaptation, measured by the Notre Dame Global Adaptation Initiative Country Index (ND-GAIN), and gender inequality, measured by the Global Gender Gap Index (GGGI) developed by the World Economic Forum and the Gender Inequality Index (GII) developed by the United Nations. Simple linear regression was used to estimate the associations between the indices and their subdomains for 146 countries.

Results: There was an approximately linear association between the GGGI and climate adaptation. Each 1% increase in gender equality was associated with a 0.6% increase in the ND-GAIN score (slope 0.59, 95% confidence interval [0.33 to 0.84]). This was driven by a negative association between gender equality and vulnerability (-0.41 [-0.62 to -0.20]), and a positive association between gender equality and readiness (0.77 [0.44 to 1.10]). Gender equality in the education domain of the GGGI had the strongest association with climate adaptation. There was a strong negative linear association between the GII and climate adaptation, which explained most (87%) of the between-country variation in climate adaptation. Each 1% increase in gender inequality was associated with a 0.5% decrease in the ND-GAIN score (-0.53 [-0.57 to -0.50]). The association between gender inequality and readiness was stronger than the association with vulnerability (0.40 [0.37 to 0.44] for vulnerability versus -0.67 [-0.72 to -0.61] for readiness).

Conclusions: Gender inequality measured broadly across different domains of life is associated with climate adaptation at country level, both in terms of vulnerability to impact and readiness to respond.

Key messages:

- Gender inequality, considered broadly across multiple domains of life, is associated with increased vulnerability to climate change and poor readiness to respond.
- Addressing gender inequality needs to be a priority for governments and inter-governmental organisations if populations worldwide are to adapt to climate change.

Abstract citation ID: ckae144.025
High-resolution modeling and projection of heat-related mortality in Germany under climate change

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Heat is a leading cause of premature deaths during summer months. Understanding the relationship between high temperatures and excess mortality is crucial for designing effective prevention and adaptation plans. Traditional statistical methods have been repeatedly applied to analyze heat-related mortality. However, spatially and temporally high-resolution analyses are challenging due to fragmented data archives across different agglomeration levels, especially for mortality data. We propose a neural network-based model to estimate heat-related mortality. This approach allows for high temporal and spatial resolution estimations, such as regional heat risk during specific heatwaves. Using Germany as a case study, we calculated heat-related excess mortality rates at the district level and visualized the dynamics of local health risks within a heatwave. Overall, we estimated a total of 48,000 heat-related deaths in Germany over the last decade (2014-2023), with most occurring during specific heatwave events. For example, in 2023, the heatwave from July 7-14 contributed approximately 28% (1100 deaths) to the total of about 3,900 heat-related deaths for the entire year. This estimation is consistent with previously published reports from the Robert Koch Institute (RKI), considering the resolution differences in the input data. In addition, we combined our model with shared socio-economic pathways (SSPs) of future climate change, assuming a static population and baseline mortality rate. The results suggest that heat-related risk in Germany could further increase by a factor of 2.5 (SSP245) to 9 (SSP370) without adaptation to extreme heat. Our approach is a valuable tool for the monitoring of regional heat-related risks as well as scenario-based risks projections for the future. The results of the model can help develop climate-driven public health strategies, aiding in the identification of local risks during heatwaves and in long-term resilience planning.

Key messages:

- High-resolution modeling of heat-related mortality helps us to develop targeted adaptation and prevention plans.
- The majority of heat-related mortality occurs during heatwaves in summer.

Abstract citation ID: ckae144.026
Development of a heat mortality surveillance approach for England

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Background: England's unprecedented temperatures in 2022 and 2023 highlighted the severe risks of rising global temperatures on public health. This study considers the impact of heatwave events on mortality rates, supporting the development of improved health surveillance and intervention strategies.

Methods: Firstly, heat-associated mortality for each heat episode was estimated by comparing observed daily mortality values with the expected baseline of daily deaths. Secondly, the historic temperature-mortality relationship was established at national and regional levels using a distributed lag non-linear model with temperature and mortality data from the previous 5 years. Finally, modelled estimates of heat-associated excess mortality were generated based on the historic temperature-mortality relationships, to assess any difference between observed and modelled estimates.

Results: In 2022 which saw record-breaking maximum temperatures in the UK, an estimated 2,985 (2,258-3,712) heat-associated deaths were recorded across five heat episodes, the highest annual count to date. Despite relatively cool temperatures, 2023 saw the third-highest heat-associated mortality since reporting began in 2016 of 2,295 (1,681-2,910). Comparisons between modelled and observed mortality were generally similar, but showed statistically significant discrepancies for certain heat episodes across the two summers.

Conclusions: Heatwaves have a rapid and clear impact on health, emphasising the need for effective early warning systems and interventions. The comparison of observed mortality with predictions from historic temperature-mortality relationships at regional level demonstrates the need for a nuanced approach to surveillance and health protection for adverse heat, with factors other than temperature also playing a critical role in health impacts. This will inform continuous improvements in England's impact-based Heat Health Alerting system.

Key messages:

- Heatwaves pose a significant risk to public health, as evidenced by the unprecedented excess deaths during the record-breaking temperatures in England in Summer 2022.
- Comparison of observed mortality with predictions from historic data can provide insight into contextual factors modulating the health impacts of heat, and inform future surveillance and response.

Abstract citation ID: ckae144.027
Preparing health students for climate change: the impact of an innovative 'Plan Health Faire' course

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Introduction: Recent studies highlighted the need for climate change (CC) training in universities, especially for health students. In France, a collaborative teaching program, "Plan Health Faire" (PHF), addresses this need. This study aimed to assess PHF's impact on health students' reactions, knowledge, and behaviour.

Methods: A cross-sectional study was carried out among all second-year health students enrolled in Medicine, Pharmacy, Odontology, and Maieutics at the University of Poitiers in September 2022. During a mandatory seminar, all students took part in the innovative and scientific PHF teaching program which aims to raise awareness of the challenges of CC as applied to healthcare. Two structured questionnaires based on the Kirkpatrick evaluation model were administered before and after the course. Using a comparative statistical analysis, the changes in students' knowledge were assessed.

Results: In all, 294 students took part in the study, and 97.4% were satisfied or very satisfied with PHF. An average score of 8.6/10 was given to the collaborative dynamics of the training. In terms of changes in their level of knowledge and their perception of these changes, 98.3% of students felt that they had learned new knowledge about CC and healthcare. A comparative analysis of the answers to the knowledge questions showed that students' level of knowledge is indeed significantly higher at the end of the course ($p<0.0001$). Finally, 94% of students expressed their probable or certain intention to integrate these issues into their future professional practice.

Conclusions: These results indicate that the PHF training program has a significant impact on health students, particularly in terms of satisfaction and knowledge. PHF could be an interesting way to teach health students about the challenges of CC in healthcare. PHF is currently tested in other French Universities and health care facilities.

Key messages:

- Plan Health Faire is an innovative and collaborative educational program aimed at raising awareness among healthcare stakeholders about the challenges of climate change.
- Plan Health Faire is an effective program for raising awareness among health students about climate change and is also an interesting lever for integrating climate change into their future practice.

Abstract citation ID: ckae144.028
Exploring the relationship between energy poverty and mental wellbeing: a qualitative study

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Background: Rising rates of energy poverty in Europe, affecting 11% of households, are a serious public health concern. The inability to meet energy needs impacts mental wellbeing, preventing people from productively engaging in society. Our objective was to explore this relationship within the context of three European cities, each characterized by distinct climatic conditions, cultural and societal characteristics and governance arrangements. This work is part of the European funded research project WELLBASED, grant no. 945097.

Methods: Semi-structured interviews ($n = 34$) were conducted with people experiencing energy poverty in the United Kingdom, the Netherlands and Spain. Purposive sampling ensured the representation of a diverse range of family and household types, gender and experiences with energy poverty. Thematic analysis was conducted using MaxQDA software.

Preliminary results: The analysis resulted in six themes: (1) worries and fear (2) stress (3) value of the home and neighborhood, (4) caring for others, (5) engaging with daily life and (6) autonomy in managing the situation and seeking for and receiving support. Participants were worried and stressed about the rising energy bills, the thermal discomfort, and health impacts of their poor housing conditions. In relation to caring responsibilities, participants were especially concerned about the impact on their children and prioritized children's needs. Participants also expressed a strong will for independence and having control over their lives, but at the same time valued being seen and supported.

Conclusions: The persistent worries, fear and stress highlight implications of failure to meet energy needs for mental wellbeing. Caring responsibilities, engaging with daily life and autonomy proved important for mental wellbeing among people living in energy poverty. Our findings call for addressing energy poverty challenges in public health programs to improve mental wellbeing of vulnerable citizens.

Key messages:

- People experiencing energy poverty in the United Kingdom, Spain and the Netherlands recognize the impact of their energy poverty situation on their mental wellbeing.
- The public health community needs to be informed and engaged about the impact of energy poverty on mental wellbeing in order to take action.

1.G. Scientific session: Forecasting dietary habits trends, human and planetary health

Abstract citation ID: ckae144.029

Organised by: EUPHA-FN, -CHR, WHO/Europe Special Initiative for NCDs and Innovation
Chair persons: Saverio Stranges (EUPHA-CHR), Mary Rose Sweeney (Ireland)
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Extensive research has elucidated that dietary factors are pivotal in influencing both human health and the ecological stability of the planet. Suboptimal dietary patterns are implicated in over 10 million annual fatalities attributable to non-communicable diseases. Concurrently, the agricultural sector, a major component of food production, contributes significantly to environmental degradation. This sector is responsible for more than a quarter of global greenhouse gas emissions and utilizes approximately 50% of the planet's habitable land. Moreover, it accounts for over 70% of global freshwater consumption and is a primary contributor to marine ecosystem disruption through nutrient runoff leading to ocean eutrophication. Despite these critical linkages, current global trends related to dietary practices show little alignment with the improvements needed to achieve the Sustainable Development Goals set for 2030. The existing policy framework and interventions lag considerably in addressing these concerns. Historical and ongoing discussions have repeatedly highlighted these issues, yet the allocation of resources necessary to counteract the pervasive influence of industry-driven marketing promoting less healthful dietary choices remains markedly inadequate. There is an urgent need to intensify dialogues and enhance the conceptual framework regarding the role of diet in sustaining global health and environmental integrity among public health professionals. Such measures are crucial for facilitating a shift towards more sustainable and health-promoting dietary habits globally. The EUPHA Food and Nutrition Section, the Chronic Diseases Section, in collaboration with the World Health Organization (WHO) Regional Office for Europe, aim to propose a joint workshop to share innovative research and activities held in the context of diet and environment. The workshop aims to provide new findings and stimulate the debate about the projections for the future of human and planetary health.

Key messages:

- Human health and environmental preservation require an adaptation of dietary habits globally: are we going in the right direction?
- Current evidence suggests that there is an wide area of intervention to improve actual dietary habits, reduce the environmental impact, and improve human health.

Abstract citation ID: ckae144.030
Foresight diet quality: current trends and future problems

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Current evidence suggests that several aspects of diet quality is globally suboptimal. While increasing animal-based products could exert certain benefits against undernutrition in developing countries, the preference of mass-produced low-quality meat-products over other animal-based ones (i.e., milk, dairy, and eggs) and their overall excessive consumption in spite of plant-based ones has been deemed responsible, at least in part, of the rise of non-communicable diseases. The industry-led response to the growing need of animal-food alternatives may not necessarily meet the health objectives of a natural vegetable source against highly processed products rich in chemical additives. Research in this area is growing producing mixed results, while adoption of plant-based dietary patterns seems less and less equivalent to be synonymous of a healthy nor sustainable choice. In this presentation, data on the current state of evidence on global food consumption, dietary patterns, as well as the relation between level of food processing and health will be provided.

Abstract citation ID: ckae144.031
Reducing obesity and overweight: Subregional Policy Dialogues in the WHO European Region

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In the WHO European Region, obesity and overweight stand as leading causes of disability and premature mortality. They contribute significantly to the burden of noncommunicable diseases, hindering efforts to achieve sustainable development goals related to health, including SDG goal 3.4, aiming to reduce premature mortality from NCDs by one-third by 2030. Despite some policy successes such as sugary drinks taxes, restrictions on marketing unhealthy products to children, and physical activity promotion campaigns, no country has managed to halt the rising levels of obesity. Addressing obesity requires a comprehensive approach, and WHO endeavors to support countries in implementing a wide range of policy actions across various settings. The WHO Special Initiative for NCDs and Innovation has recently adopted a subregional approach to promote evidence-based, data-informed policy action. In June 2022, it organized a series of obesity dialogues, including sessions for the Western Balkans. This session will outline the methods and outcomes of these dialogues, including stakeholder engagement, presentation of the latest obesity data, evidence-based policy recommendations, and the process of prioritizing policy options with decision-makers. It will consider the lessons learned from this process, offering insights not only for the health agenda but also for addressing other complex public health, environmental, or social challenges, which require multisectoral collaboration and comprehensive, policy actions on many levels.

Abstract citation ID: ckae144.032
Diet Impact Assessment model: an interactive tool for analysing the health, environmental and affordability implications of diets

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Global diets, environmental factors, and health require a holistic approach in public health discourse that takes into account the well-being of both humans and planetary health. Modeling tools have demonstrated being useful to estimate priorities and differences between countries and gain insight into future paths that depend on predetermined priorities. Modeling efforts that include environmental goals indicate the possibility of reducing environmental impacts while both improving food quality and overall health outcomes, especially in high-income settings. The aforementioned forecasts highlight the effectiveness of giving priority to dietary recommendations that lead to better, balanced patterns as the most effective approach to reducing mortality risks and environmental implications. The presentation will introduce the Diet Impact Assessment (DIA) model - a new interactive modelling tool for analysing the health, environmental and affordability implications of diets and dietary change. The tool enables countries to analyse user-specific scenarios of dietary change, and to estimate the health, environmental and cost burden of each scenario in terms of diet costs, avoidable deaths, changes in resource use and compatibility with global environmental targets, including those associated with food-related greenhouse gas emissions, land use, water use and fertilizer application. The tool was commissioned by the WHO Regional Office for Europe and is based on analytical frameworks developed by Marco Springmann and colleagues.

Abstract citation ID: ckae144.033
The future of nutrition education for health systems capacity building

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In the ever-evolving landscape of global health, nutrition education plays a pivotal role in shaping the well-being of populations. The future of nutrition education encompasses a holistic understanding of health, considering not nutritional adequacy in health and disease, but also cultural, social, and environmental factors. Tomorrow's health professionals must also be equipped to address the interconnectedness of nutrition with mental health, sustainability, and community dynamics. Nutrition education will increasingly involve collaboration across disciplines. Health professionals, educators, policymakers, and community leaders must work together to create a comprehensive ecosystem that fosters nutrition literacy. This collaboration extends beyond traditional healthcare settings to schools, workplaces, and local communities. Furthermore, digital transformation will also revolutionise nutrition education. Online platforms, mobile apps, and virtual simulations will enhance learning experiences whilst interactive modules, webinars, and gamified content will engage learners and facilitate continuous professional development. Moreover, telehealth and tele-nutrition will bridge geographical gaps, ensuring access to quality education globally. Cultural sensitivity in nutrition education is also needed across geo-demographic boundaries to appreciate diverse dietary practices, food taboos, and traditional knowledge. Nutrition education should also empower health professionals to advocate for policy change across food systems, promote sustainable practices, and address food insecurity and therefore understanding policy frameworks and participating in advocacy efforts will be key. Finally, embracing the future requires a commitment to lifelong learning to remain at the forefront of nutrition science and its cutting edge as the questions may remain the same but the answers vary significantly as we garner new evidence to navigate evolving global challenges.

1.H. Oral presentations: Health care systems

Abstract citation ID: ckae144.034
An analysis into the rise of private healthcare in England by geographical location and time period

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Background: Private healthcare is a rapidly growing industry in the UK, particularly for surgical procedures. Across the pandemic period, waiting lists for elective surgical and consultant-led care increased from 4.4 to 7.5 million patients. This study aimed to analyse the trends and geographical variations in privately funded and NHS-funded orthopaedic private procedures across England compared to NHS waiting times.

Methods: We conducted a longitudinal study using quarterly national data between 2019 and 2023 in England. Descriptive analysis of quarterly orthopaedic surgical volumes per 10,000 people, and quarterly orthopaedic surgery wait times stratified by geographical location and time period was conducted.

Results: Between 2019 and 2023 there were a total of 1,469,450 procedures across the private sector, comprising 1,030,095 NHS-commissioned private orthopaedic procedures and 439,355 private orthopaedic procedures. The South of England performed a higher total number of private procedures per year compared to the North (63 vs 57/10,000 people); whilst there was almost double the number of privately funded procedures (23 vs 12/10,000), the difference was less amongst NHS-funded procedures (45 vs 40/10,000 respectively). There was a large variation in the number of NHS-funded procedures per 10,000 between regions. The North has consistently shorter waiting times than the South.

Conclusions: Our findings indicate considerable geographical variation in the use of private healthcare between regions, suggesting a two-tier healthcare system. The founding principles of the NHS, healthcare free at the point of use based on clinical need irrespective of ability to pay, continue to be eroded. Policy makers and politicians urgently need to find solutions to ensure all members of society can access the same high quality health care.

Key messages:

- Private healthcare utilization in the UK for orthopaedic procedures, has increased significantly, contributing to an emerging two-tier healthcare system.
- There are large geographical disparities in access to healthcare services, with he South of England performing more private proceeds with longer NHS waiting times compared to the North.

Abstract citation ID: ckae144.035
Evaluating health system resilience testing; what makes this practice successful?

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Issue: Health system resilience is an important and desirable attribute of health systems. We have evaluated the operationalization of our step-by-step guide for conducting a resilience test.

Description of the problem: Preparedness planning is often siloed and does not take the entire health system into account. The objective was to develop a new methodology for policy making that is adaptable to any health system context and shock scenario. Resilience testing uses a mixed-method approach to assess resilience by understanding health system strengths and weaknesses in relation to a hypothetical shock scenario. A programme logic model, semi-structured interviews and an online questionnaire were used to evaluate the methodology and to answer the following questions: Can resilience tests be used to identify strengths and weaknesses in different health system contexts? What are the determinants for successful resilience testing?

Results: Three resilience tests were conducted in Finland, Greece and the Asturias region of Spain. All resilience tests identified health system strengths and weaknesses. 97% of participants agreed that the test identified broader vulnerabilities. However, 76% thought that a different scenario would identify different strengths and vulnerabilities. 94% of participants agreed or strongly agreed that the test was a valuable exercise. The semi-structured interviews consistently found that successful resilience testing requires neutral facilitation and carefully selected test participants.

Lessons: Resilience test results have been used in 2 out of 3 cases to develop health policy. Resilience testing needs to be initiated and supported by the ministry of health to ensure results are considered in the policy making process.

Key messages:
- Health system resilience tests can identify health system strengths, weaknesses, and steps towards remedial policy action to improve resilience in different European health system contexts.
- Successful health system resilience testing requires carefully selected facilitators and test participants as well as support from the Ministry of Health.

Abstract citation ID: ckae144.036
System-wide health needs segmentation: innovating integrated care for complex needs households

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Background: Health needs segmentation is increasingly used in healthcare delivery and health policy planning to cater for diverse population groups and develop effective and equitable health policies. But existing models often lack a systemic approach, focusing instead on single conditions or settings. This leads to fragmentation, gaps and inefficiencies in service provision and inequities in health outcomes, particularly when addressing complexity, and specifically for children, as adversity clusters in families.

Aims: To develop a household health needs segmentation model to identify those households with children with high levels of complex cross-sectoral needs, to plan for integrated care services.

Methods: Data linkage of primary, secondary, mental, community and social care services, mortality records, residential information, and small-area multiple deprivation measures was used to design a rule-based model to identifying households with children with the most complex needs in the UK region of Cheshire and Merseyside (C&M), with large variation in demography, (human) geography, and deprivation.

Results: Of 2,645,329 individuals in C&M (97% of the registered population in 2021), 1,022,840 lived in 266,939 households with children aged 0-16: 21,527 households had complex needs. This 8% of families accounted for an estimated 34% of health and social care costs for families, £362 million in total, 42% of which spent on children in care of local authorities.

Implications: The model identified a specific group of families with complex service use patterns, high mental and physical comorbidity and socioeconomic vulnerabilities. These exhibit potential for improved outcomes through better integration of services and targeting of community building and family support resources.

Conclusions: Our model represents a significant innovation in health needs segmentation. By using whole system linked data, it provides a pragmatic way of profiling complexity for proactive care.

Key messages:
- Complex health and social problems in children cluster in families with adults also having complex needs, so we need to transform fragmented services to support the whole family to improve outcomes.
- Household level segmentation using cross-sectoral, whole system data is an innovation to identify households with complex needs with respect to their locality to improve integration of support.

Abstract citation ID: ckae144.037
Maternal near-miss and mortality associated with being referred: a case control study in Luanda

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Background: Understanding of determinants of severe maternal morbidity is crucial for reducing Maternal Near Misses (MNM) and Maternal Deaths (MD). We aimed to assess whether being referred from lower level to tertiary-level hospitals is a determinant of MNM and MD in Luanda, capital of Angola.

Methods: A facility-based case control study was conducted (June-September 2022) at 2 referral hospitals in Luanda. Consecutive sampling for the cases (women admitted with life-threatening conditions) and systematic sampling for the controls (women admitted for vaginal delivery) was used. Cases were classified by the outcome at discharge: MD or MNM. Multivariate multinomial regression was conducted to assess whether being referred is associated with MNM and MD (controls as reference). Sociodemographic, clinical and obstetric factors and circumstances at admission related with MNM or MM (p-value <0.05) were included in the models. Reduced models (forward technic) were fitted for obtaining adjusted odds ratio (AOR) and respective 95% confidence interval (95%CI).

Results: Data from 331 cases (245 MNM and 86 MD) and 662 controls were analyzed and bivariate analysis revealed large differences between groups in regards to the sociodemographic, clinical and obstetric characteristics and circumstances of admission. The proportion of being transferred from another facility was 7.9%, 51.0% and 65.1% among controls, MNM and MD, respectively. After adjusting for pre-existing diseases during pregnancy, previous cesarean section and delay in seeking care, being referred from another facility increased the odds of MNM (AOR=10.97; 95%CI: 7.19-16.75) and MD (AOR=18.89; 95%CI: 10.50-33.89).

Conclusions: According to our findings, being referred from lower level facilities is a strong determinant of MNM and MD. Strategies for improving lower level of healthcare services and the referral system for pregnant women could have a positive impact on prevention of MNM and MD in our setting.

Key messages:

- Awareness should be given to the conditions of maternal transfer from lower level to tertiary level hospitals in Angola.
- Public health strategies should address the quality of maternal care at primary and secondary level hospitals, before maternal transfer, as well as, the maternal referral system in this setting.

Abstract citation ID: ckae144.038

Active education for reducing the attainment gap in a public health course in the United Kingdom (UK)

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Background: A diverse cohort of students join our UK postgraduate public health programme. We wanted to reduce attainment gaps between students. Active and inclusive educational activities may be important mechanisms for reducing attainment gaps as well as promoting student wellbeing. Our aim was to explore how active and inclusive curriculum design could support development of public health functions (e.g., designing interventions to address health inequalities) whilst reducing attainment gaps.

Objectives: Our 12-week module included a project to model determinants of adolescent's health inequalities and design an evidence-based intervention to address determinants. Informed by Fink's taxonomy and the assessment for learning framework, we designed educational activities (i.e., small group work and presentations, ethnographic visits, discussions with stakeholders) and assessments (i.e., group poster presentation and individual critical reflection) to structure the project. We assessed attainment gaps in student marks and surveyed student attitudes to the project ($1 =$ strongly disagree; $5 =$ strongly agree).

Results: 53 students (9 groups) completed the assessment with the following marks: poster ($M = 61$, $SD = 7$), critical reflection ($M = 59$, $SD = 9$), overall mark ($M = 59$, $SD = 10$). More students received 'fails' and 'distinctions' when only the critical reflection was considered ($p < 0.001$). Students ($N = 39$; 72% response rate) agreed that activities were intellectually stimulating ($M = 5$, $SD = 0.8$), supported their learning ($M = 4$, $SD = 0.8$) and made them feel included ($M = 5$, $SD = 0.7$). Active learning approach (i.e., benefits of interactions; creating effective groups); student's caring and commitment; choice and inclusivity; complex and authentic tasks; informal, formal and timely feedback were highlighted.

Conclusions: Evidence that an active and inclusive approach functions to reduce attainment gaps is equivocal but appears to promote engagement, inclusion and learning.

Key messages:

- Active learning strategies combined with authentic and flexible tasks and rich in feedback stimulate student's interactions, inclusivity, and learning with potential for reducing attainment gaps.
- Active and authentic education requires educators to work on how to properly implement these strategies.

1.I. Oral presentations: Tackling infectious diseases

Abstract citation ID: ckae144.039

Effectiveness of a school- and primary care-based HPV vaccination intervention (the PrevHPV study)

Aurélie Bocquier

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Background: HPV vaccine coverage (VC) remains lower than expected in many countries, particularly France. We developed and evaluated the PrevHPV multicomponent intervention to improve HPV VC among French adolescents. The components were 'education and motivation' of adolescents in schools, 'at-school vaccination', and 'general practitioners' (GPs) training'. We evaluated the effectiveness of the intervention two months after it ended.

Methods: We carried out a pragmatic cluster randomized controlled trial with incomplete factorial design in 14/25 French school districts (July 2021-April 2022). The cluster was the municipality ($n = 91$). The outcome was HPV VC (≥ 1 dose) two months after the intervention ended among 11-14-year-olds living in participating municipalities (data from the French national reimbursement database and from the trial). We performed two types of analyses: (1) without considering the dose of intervention received, using a linear model with one fixed effect per component, adjusted for baseline HPV VC; (2) a post hoc on-treatment analysis, rerunning the linear model by replacing the fixed effects with a quantitative 'dose of intervention' variable calculated for each component using data collected during the trial.

Results: For the three intervention components, estimates of the effect on VC at two months were greater for the on-treatment analyses than for the analysis that did not consider the intervention dose. For the 'at-school vaccination' component, the estimate increased from 5.50 percentage points (pp; $p < 0.001$) to 11.25 pp ($p < 0.001$). The 'GPs' training' component reached significance (from -1.46 pp, $p = 0.150$ to 3.56 pp, $p = 0.049$). In both types of analyses, no significant effect was observed for 'education and motivation' (from -0.08 pp, $p = 0.950$ to 2.58 pp, $p = 0.241$).

Conclusions: Increasing HPV VC among adolescents requires the involvement of various stakeholders and could be achieved by combining interventions in both schools and primary care settings.

Key messages:

- The PrevHPV study is supported by the French health authorities and conducted by a multidisciplinary consortium to tackle a long-lasting public health concern in France.
- Offering free HPV vaccination at school significantly increased HPV VC; providing GPs with training and a dcision-aid tool helped increase HPV VC if the GPs completed the training.

Abstract citation ID: ckae144.040
Estimated number of COVID-19 deaths averted by vaccination in Belgium

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Background: Vaccination campaigns have been rolled out globally to limit the impact of COVID-19 on severe health outcomes, including mortality. We aimed to estimate the number of averted deaths by COVID-19 vaccination in the Belgian population aged ≥65 years, between January 2021 and January 2023.

Methods: Nationwide data on COVID-19 infections, vaccinations and all-cause mortality were individually linked. We estimated Vaccine Effectiveness against COVID-19 mortality (VE) in persons having received a vaccine dose in the last 6 months using a Cox proportional hazards model adjusted for age, sex, time since vaccination, previous infection, comorbidities, province and income. COVID-19 death was defined as a death within 1-7 weeks after a positive SARS-CoV-2 laboratory-test. Based on obtained VE estimates, vaccine coverage and national COVID-19 mortality data, we estimated the number of averted deaths (expected deaths without vaccinating minus the reported deaths).

Results: By January 31st 2023, 11,033 COVID-19 deaths have been reported in Belgium. The average vaccine coverage was 48% during alpha, 85% during delta and 63% during omicron dominance. VE was estimated at 0-59 days after vaccination, for 65-79 year and ≥80 year-olds respectively, at 65% (58%-60%) and 35% (28%-41%) during Alpha, at 84% (82%-87%) and 79% (77%-81%) during Delta and at 83% (80%-85%) and 71% (68%-73%) during Omicron dominance. We estimated 10,042 deaths averted (range: 8,917-11,188) among the Belgian population aged ≥65 years, representing a 48% reduction (range 45%-50%) in the expected deaths. Out of 10,042 averted deaths, the majority was averted during Delta (47%; 4,670) or Omicron dominance (43%; 4,366), compared to during Alpha dominance (10%; 1,006).

Conclusions: Vaccinating against COVID-19 led to an important reduction in COVID-19-related mortality among the Belgian population ≥65 years, in particular during Delta and Omicron dominance, underscoring the effectiveness of vaccines against mortality.

Key messages:

- Vaccinating against COVID-19 led to an important reduction of 48% in COVID-19-related mortality among the Belgian population ≥65 years, in particular during Delta and Omicron dominance.
- Vaccine effectiveness against COVID-19 mortality was estimated as high in the Belgian population ≥65 years (range: 71-84%) during Delta and Omicron dominance, also among elderly over 80 years.

Abstract citation ID: ckae144.041
How have respiratory tract infections changed in the post-covid era for children under 5 years?

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Background: Social distancing measures introduced in response to the covid-19 pandemic reduced transmission of all respiratory pathogens. Exposure to respiratory pathogens in early life affects future lung health. We aimed to describe changes in the incidence of respiratory tract infections (RTIs) in children <5 years in England in the post-pandemic era.

Methods: Population-based retrospective cohort study using electronic health records. We included all children aged <5 years registered with a primary care practice from April 2016 to March 2023. We compared monthly GP consultation rates for RTIs in the two post-pandemic years (April 2021 - March 2022 and April 2022 - March 2023) with corresponding months during pre-pandemic years (April 2016 - February 2020).

Results: There were 3 045 701 respiratory tract infections among 2 894 539 children <5 years registered with a GP practice during the study period. Pre-pandemic, monthly RTI rates varied from lows of 29.1 per 100 child-years in August to highs of 108.8 per 100 child-years in November. In 2021/22, monthly RTI rates were bimodal peaking in June and October, although the winter peak was lower than pre-pandemic years and mean monthly RTI rates were ∼15% lower overall. In 2022/23 mean monthly RTI rates remained ∼15% lower than pre-pandemic years, but there was a single peak in December 2022 of 117.6 RTIs per 100 child-years, exceeding the pre-pandemic winter peaks by 8.1%.

Conclusions: Overall, monthly RTIs in post-pandemic years were 15% lower than pre-pandemic years. However, there was a concerning peak in December 2022 that exceeded the winter peaks from previous years. Comparisons with national surveillance data suggest this peak reflects changes in RTI incidence, particularly among group A streptococcal infections, but this peak may also reflect changes in access to care or healthcare seeking behaviour. Continued monitoring of post-pandemic seasonal patterns will assist in planning for health service use.

Key messages:

- Respiratory tract infections in children <5 years in post-pandemic years were 15% lower than pre-pandemic years, but winter peaks in incidence may be of greater magnitude in the post pandemic era.
- Ongoing monitoring of patterns of respiratory tract infections in young children is important for future health service planning and delivery.

Abstract citation ID: ckae144.042
Vaccine conspiracy beliefs are the main determinant of adult vaccine hesitancy

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Background: Many factors influence the level of vaccine hesitancy. The COVID-19 pandemic demonstrated that conspiracy beliefs are an important element of overwhelming misinformation. The main aim of the study was to assess the relationship between vaccine hesitancy (VH) and vaccine conspiracy beliefs (VCB) in Polish society.

Methods: The analysis was conducted using data from an online survey of 2189 Internet users conducted in November 2021. Uni- (ULRM) and multivariable linear regression (MLRM) models were developed for vaccine hesitancy as a dependent variable. The independent variables included VCB score (VCBS), health (HL) and e-health literacy (eHL), Internet (IU) and social media use (SMU), political views (PV), and sociodemographic variables.

Results: The VCBS, eHL, HL, age, income, vocational and marital status, place of residence, PV, IU, and SMU were significant predictors of VH in ULRMs. A significant relationship with VH was maintained in MLRM for all independent variables enlisted earlier, apart from age, income, and vocational status. Respondents with higher VCBS were more likely to have higher VH (B, 95%CI: 0.38, 0.37-0.40). Those with undetermined HL had higher VH than persons with sufficient HL (B, 95%CI: 0.13, 0.06-0.20). A higher level of eHL predicted a lower level of VH (B, 95%CI: -0.01, -0.012 - -0.03). Lower IU and higher SMU were associated with higher VH (B, 95%CI: 0.16, 0.02-0.30, and 0.10, 0.03-0.17, respectively). Supporters of far right-wing party showed higher HV than supporters of the governmental party (B, 95%CI: 0.16, 0.07-0.27). Finally, singles showed higher HV than married (B, 95%CI: 0.07, 0.01-0.13), and residents of small cities had higher HV than residents of rural areas (B, 95%CI: 0.08, 0.004-0.15).

Conclusions: The vaccine conspiracy beliefs play a major role in the development of VH. The interventions aimed at the change of anti-vaccination attitudes should address the problem of widespread conspiracy beliefs.

Key messages:

- Conspiracy beliefs are an important determinant of attitudes toward vaccination.
- The development of adequate digital health literacy may be a protective factor against vaccine hesitancy.

Abstract citation ID: ckae144.043

Mother-to-child Transmission using the National HBV Perinatal Prevention Data in Korea, 2002-2021

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Aims: To define risk factors associated with mother-to-child transmission (MTCT) and to create supporting evidence for the National Hepatitis B Perinatal Prevention Program (HBPPP) in Korea.

Methods: We analyzed HBPPP mother-infant pair data enrolled from 2002 to 2021. The major outcome was the HBsAg status of the infant resulting from post-vaccination serological testing. Additionally, we used prescription records of antivirals against the hepatitis B virus (telbivudine, tenofovir disoproxil fumarate) from 2010 to 2021 by data linkage with the National Health Insurance claims data. To select significant risk factors by maternal HBeAg status based on the data from 34 to 42 weeks of pregnancy, multivariate logistic regression analysis was used.

Results: Data from 232,242 mother-infant pairs were analyzed. Among 154,331 (66.5%) infants with post-vaccination serological testing results, 3,620 (2.3%) were HBsAg-positive. The incidence of MTCT has shown a decreasing trend, from 4.1% in 2002 to 1.0% in 2021. However, the rate was high at 5.5% (1822/32986) for infants of HBeAg-positive mothers. Maternal antiviral prescription during the pregnancy period, old age, HBeAg negative, delivery type (C-section), and breastfeeding were significant factors in decreasing the risk of MTCT. Among the HBeAg-positive, there was a significant difference in the antiviral prescription 0.7% (11/1692) compared to the non-prescription 4.9% (789/16264) [aOR, 7.71; 95% CI, 4.24-14.02]. The result was similar for the HBeAg-negative group, 0.7% (302/44888).

Conclusions: To eradicate the hepatitis B virus on a national level, MTCT must be further reduced. To achieve this, it is necessary to introduce strong additional preventive measures, including quantitative HBV DNA testing for mothers with chronic hepatitis B and administering antiviral prophylaxis at the third trimester of pregnancy with HBV-DNA $\geq$200,000 IU/mL into the HBPPP.

Key messages:

- The incidence of mother-to-child transmission has shown a decreasing trend, from 4.1% in 2002 to 1.0% in 2021.
- Maternal antiviral prescription, old age, HBeAg negative, delivery type (C-section), and breastfeeding were significantly decrease the risk of mother-to-child transmission.

1.K. Scientific session: Health literacy of children and adolescents across Europe

Abstract citation ID: ckae144.044

Organised by: EUPHA-HL, -HSR
Chair persons: Jany Rademakers (Netherlands), Orkan Okan (EUPHA-HL)
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Health literacy is developed throughout the life course. Enhancing health literacy at an early age is especially important since it may impact both current and future health skills and outcomes. Low health literacy in child and adolescent populations has been linked to worse health outcomes and health disparities in Europe, making health literacy of children and adolescents an important public health topic. Developing and delivering targeted interventions and services for these age groups requires insight and data on the development and state of health literacy in early age. However, child and adolescent health literacy is still an under-researched topic. This is partly due to a lack of appropriate measurement instruments and methods to involve children in research. In the past years, new studies on child and adolescent health literacy have emerged in several European countries. In this workshop, innovative studies from Germany, the Netherlands and the UK on HL in childhood and adolescence are introduced and discussed. Both methodological findings as well as empirical data will be presented. In Germany, an instrument to measure child health literacy was developed and validated for primary school children. This instrument, the HLS-Child-Q15, has been used both in Germany and in the Netherlands to study the relationship between children's health literacy and their health behaviors and outcomes. In the UK, methods of involving primary school children in health literacy research were studied. Experiences with a Children's Advisory Group will be shared.

Another study in the Netherland focuses on the health literacy profiles and needs of adolescent patients with rheumatic diseases. The format of this workshop will be 4x10-minute presentations (including questions) followed by a 20-minute interactive discussion, reflecting on the relevance of these results to further research, health promotion and health services. which will be followed by Q&A and an open discussion with the audiences. This workshop offers a forum for researchers, health educators, practitioners and policymakers interested in health literacy measurement and research in children and adolescents.

Key messages:

- Child and adolescent health literacy is an important, yet under-researched public health topic.
- Child health literacy is an important predictor of their health behavior and outcomes.

Abstract citation ID: ckae144.045
The influence of health literacy on health outcomes and behaviors in fourth-graders in Germany

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Background: For the adult population, evidence suggests that a high level of subjective health literacy is associated with a number of favorable health outcomes and behaviors. However, for younger populations, particularly children, little evidence is available. This study investigates the relationship between subjective health literacy, health outcomes, and health behaviors in children.

Methods: We conducted a representative survey of 4th-grade students (age 8-11) in North Rhine-Westphalia, Germany, between Oct. 2022 and Feb. 2023. Subjective health literacy was measured with the HLS-Child-Q15 questionnaire. For mental and physical well-being, the KINDL-R was used. For health behaviors, we asked about the frequency of (1) brushing teeth, (2) eating fruit and (3) vegetables, (4) exercising, (5) consuming sweetened drinks, and (6) wearing a helmet when riding the bike. Regression analysis was used to determine the impact of health literacy on outcomes, controlling for a number of sociodemographic indicators (birthplace, home language, sex, age), as well as the tendency to give socially desirable responses. Health behaviors were rated on a Likert scale and where dichotomized for ordinal regression.

Results: $n = 1085$ students are included with a mean age of 9.5 years (SD=.6). 50.3% are female. While controlling for a number of variables, health literacy was a significant predictor ($p<.05$) for every indicator except the frequency of (1) brushing teeth, (4) exercising, and (5) consumption of sweetened drinks. For mental well-being, health literacy was the strongest predictor.

Conclusions: Our findings highlight the potentially enabling role of subjective health literacy regarding favorable health outcomes and health behaviors. However, because this is a study among younger children, further research is needed on the interplay of individual subjective health literacy, social contexts (e.g., parental health literacy and health behaviors), and children's health outcomes and behaviors.

Abstract citation ID: ckae144.046
First insights in children's health literacy in the Netherlands–results in a sample of 8-11 year olds

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Background: There are few valid, age-appropriate tools to assess children's HL. The German-language European Health Literacy Survey Questionnaire Adapted for Children (HLS-Child-Q15-DE) is a self-report questionnaire adapted from the adult European Health Literacy Survey Questionnaire. In 2021, this instrument was translated and validated in the Netherlands. In this presentation, we will describe the distribution of Health literacy in a sample of Dutch children, and relate their Health literacy level to certain aspects of their health behaviour such as food intake and physical activity.

Methods: The HLS-Child-Q15-DE was translated following WHO guidelines and administered digitally to 209 Dutch schoolchildren (eight-to-eleven-year-olds). Its psychometric properties were assessed and the sample's HL distribution was explored by demographic characteristics. Associations with food intake and physical activity were computed.

Results: Of the sample, 17.2% had a low health literacy score (first quintile), 61.1% medium (second to fourth quintile) and 21.7% high (fifth quintile). Higher HL scores were observed for ten-to-eleven-year-olds (compared with eight-to-nine-year-olds; $p = 0.021$) and fourth-grade students (compared with third-grade; $p = 0.019$). A positive association between children's HL and their vegetable consumption and PA behaviour was observed.

Conclusions: Children's health literacy can have an impact on some aspects of their lifestyle. This supports the idea that health literacy evolves throughout life and stresses the importance of both parents and schools in this process.

Abstract citation ID: ckae144.047
Involving children in health literacy research

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Background: The range of health literacy research related to children has not normalised children's involvement as advisors in health literacy research about them. While research with children can be difficult to facilitate, the principles of involvement and engagement should guide all health literacy work. This presentation shares learning from convening a Children's Advisory Group to consult children about health literacy research priorities, ethics and methods.

Methods: Children (n-8) aged 7-11, referred by adults whose networks included children, joined a Children's Advisory Group as Child Advisors. Consultations focused on a proposed study of how children's critical health literacy could be supported in a community setting. Child Advisors piloted methods for rapport-building and data collection to be adapted for use with child participants later. Child rights-informed evaluation forms captured children's reflections on their involvement.

Results: Consulting with a Children's Advisory Group has challenges and benefits. Despite equity-focused strategies, e.g. introductory phonecalls and postcard updates, seldom-heard children remained less involved and the extent of parent/caregiver support varied. Child Advisors valued independent consultations led by their interests. Contributions included child-friendly consent documents, live-streamed draw-and-describe inspired by favourite influencers, and a novel Interview to the Alien protocol designed to appeal to middle childhood.

Conclusions: Taking an equity-focused approach is relevant for research with children focused on critical health literacy. Consulting with Child Advisors provides a way to involve children in health literacy research that holds adult researchers accountable for acting on children's contributions. It is important to offer Child Advisors more than one option to get involved in research so that their insights can be foregrounded in future health literacy research with children.

Abstract citation ID: ckae144.048

Health literacy challenges of young adults with rheumatic diseased in the transition to adult care

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Background: For young people living with a chronic illness (such as rheumatic diseases), transitioning from youth to adult care is a challenging process requiring adequate health literacy (HL). Insight into the specific HL-challenges of young people with rheumatic diseases could contribute to preventing loss to follow-up, and improving medication adherence, health outcomes, and social participation.

Methods: A mixed-methods study was conducted among young adults (16-25 years old) living with rheumatic disease in the Netherlands. Participants were recruited at two clinics and through social media of patient initiatives. Quantitative data were digitally self-reported using the Health Literacy Questionnaire (HLQ) and Medication Adherence Report Scale (MARS). Qualitative data were collected through semi-structured interviews. Hierarchical cluster analysis of HLQ-data was used to identify health literacy profiles, uncovering strengths and weaknesses. Interview transcripts were analysed using content analysis and used to explore health literacy needs and confirm the HLQ results.

Results: Sixty-two participants completed the questionnaire and ten participants were interviewed. Six HL-profiles were identified, representing diverse strengths and weaknesses. Having sufficient information, social support, and critical appraisal were challenging across profiles. Some participants (particularly in profile 3) reported difficulties in taking medication. The interviews confirmed the quantitative findings and unveiled HL needs across seven categories, particularly the need for in-depth information and support, with a focus on (social) aspects of having a chronic illness as a young person.

Conclusions: HL-challenges of young adults with rheumatic diseases are similar to adult populations, but age-specific needs exist. The results can inform development of HL-responsive rheumatology services, for example during consultations or at the transition clinic.

1.L. Scientific session: Public Health data in support of healthy ageing policies

Abstract citation ID: ckae144.049

Organised by: School of Public Health University of Pavia (Italy), EUPHA-HA, -ECO, -DH
Chair persons: Anna Odone (EUPHA-DH, -IDC), Zoltan Ungvari (Hungary)
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As Europe grapples with an ageing population, the imperative of health policies that promote healthy ageing is increasingly critical. This workshop aims to explore the significant role of public health data in shaping and supporting such policies. By integrating insights from administrative records to sophisticated research infrastructures, we will highlight the multifaceted uses of data in public health, particularly in the realms of non-communicable diseases and health-related behaviours in older populations. The session will open by examining how administrative records have been utilised within Lombardy's regional health system to understand the epidemiology and access to care for people living with dementia. The discussion will then cover the advantages and challenges associated with integrating health data from diverse sources, emphasising the importance of quality, privacy, and the potential for real-time surveillance and response systems in healthcare. Following this, the focus will shift to the determinants of good health among older adults, presenting findings from a comprehensive cross-sectional study that identifies key factors contributing to what can be termed as "superhero" health status: seniors who maintain excellent physical and mental health. This analysis will delve into socioeconomic, behavioural, and environmental factors that influence health outcomes in the elderly, providing evidence-based recommendations for public health interventions and highlighting the potentialities of ad hoc surveys in examining health outcomes during emergencies. Thirdly, the workshop will also address the impact of significant life transitions on health behaviours, specifically the transition to retirement and its effects on alcohol consumption. Leveraging longitudinal data from a pan-European multidisciplinary research infrastructure, it will be demonstrated how retirement affects daily habits and lifestyles, including changes in alcohol consumption patterns. This segment will explore the implications of these findings for public health planning and policy formulation. In conclusion, there will be a discussion about healthcare system policies that support healthy ageing and the global impact of ageing on economics and health economics. These discussions will draw from the presented data sources and studies to suggest ways in which public health policies can be designed to reduce disparities and improve overall health outcomes among the elderly. This workshop is designed to provide a comprehensive overview of how data-driven insights can inform effective public health strategies and interventions to support an ageing society. By exploring various aspects of health data application, from individual behaviour to systemic policy adjustments, the session aims to highlight the critical role of data in promoting sustainable health and well-being in older adults, especially in the context of increasing life expectancy and prolonged retirement periods.

Key messages:

- Harnessing data from diverse sources is crucial for understanding and enhancing healthy ageing processes.
- Utilising longitudinal studies and robust data to design informed public health policies is essential for effective ageing interventions.

Abstract citation ID: ckae144.050
Administrative data for public health: a regional data warehouse applied to dementia epidemiology

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Administrative data can represent valuable sources of information for researchers seeking to advise policymakers. Several countries have established population-based data warehouses (DWH), integrating multiple data sources in single repositories through data linkage techniques. In Lombardy (Italy), a regional population-based DWH was established in the 1980s. It collects data about citizens from multiple sources in the social and health sectors, anonymising them immediately after their acquisition. Lombardy Region signed a specific agreement with the University of Pavia to investigate the epidemiology and access to care among people living with dementia (PLWD), using the DWH. A retrospective cohort study was conducted on hospitalised PLWD, including people aged $\geq$ 65 years with diagnoses of dementia at discharge from 2002 to 2020. The aim was to study the trends of hospitalisations among PLWD, computing these by calendar year, age, sex and cause of hospitalisation. A total of 340,144 hospital discharges were registered, of which 211,709 (63.0%) were women and 124,195 (37.0%) were men. The rate of hospitalisation decreased over the study period, ranging from 100.6/10,000 in 2002 to 65.1/10,000 in 2020. The average age at hospitalisation increased for men and women from 78.9 and 81.8 years in 2002 to 82.0 years and 84.2 years, respectively, in 2020. Respiratory diseases caused 10.4% of all hospitalisations in 2002 and grew steadily to 26.8% in 2020, becoming the leading cause of hospital admissions since 2017. Results allowed us to elaborate epidemiological measures and to characterise our population in a wide temporal trend, quantifying access to acute care by leading causes of hospitalisation. However, the analysis of administrative data comes along with several challenges, such as data incompleteness and biases. Researchers should take advantage of these data sources while keeping in mind the limitations and constraints related to data quality.

Abstract citation ID: ckae144.051
Who are the superheroes? A cross-sectional study on the determinants of healthy ageing

Giansanto Mosconi

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People who reach old age while enjoying good physical and mental health are, in a sense, 'superheroes' (of health): in fact, they not only have a relatively low impact on health care spending but are also advantaged in playing an active role in society and achieving their aspirations (and perhaps helping others to do so). The aim of this study was to assess the prevalence and determinants of being 'physical superheroes' (i.e., lacking the 10 major chronic conditions plus obesity), 'mental superheroes' (i.e., lacking major mental symptoms) and 'superheroes' (i.e., both mental and physical superheroes). We used data from a telephone-based cross-sectional study (LOST in Lombardia) conducted in November 2020 (i.e., during the COVID-19 pandemic) on a representative sample of 4,400 adults aged $\geq$65 years from the Lombardy region, Northern Italy. All the participants provided data both during and before the COVID-19 pandemic. Mental and physical superheroes were 59.0% and 17.6%, respectively. Superheroes were 12.8% overall, 15.1% among men and 11.1% among women; 20.2% among individuals aged 65-69 years, 11.3% among 70-74, 10.0% among 75-79, and 8.3% among $\geq$80 years. Multivariable analysis showed that, besides female sex, higher age, and disadvantaged socio-economic status, ever tobacco smoking (adjusted odds ratio, aOR=0.71), alcohol drinking (aOR=0.77), and physical inactivity (p for trend<0.001) were inversely related to being superheroes. Participants with feelings of hopelessness showed an extremely low presence of "superheroes" (OR = 0.17). The COVID-19 pandemic reduced by 16.3% the proportion of superheroes. Given a steadily ageing population, public health policies should aim to ensure that people reach old age in the best possible state of health by preventing risky behaviours and paying special attention to inequalities derived from economic and social factors.

Abstract citation ID: ckae144.052
Impact of the transition to retirement on alcohol consumption: a longitudinal analysis within SHARE

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In an ageing society, the impact of retirement on behavioural risk factors and health status needs to be carefully assessed. Evidence on the short-term and long-term effects of retirement on alcohol consumption are contrasting and inconsistent. A longitudinal study was conducted based on data from the Survey on Health, Ageing and Retirement (SHARE) collected between 2004 and 2020 in 27 European countries and Israel. A repeated measure generalised estimating equation (GEE) model was fitted to estimate the relative risks (RR) and corresponding 95% confidence intervals (CI) of alcohol consumption (frequency, quantity, and binge drinking) at different time periods before and after retirement. We selected a cohort of 8,998 individuals who were employed at baseline and retired during follow-up (median follow-up: 9 years; maximum: 16 years). Compared to the year of retirement, the RR for habitual daily or near-daily drinking was 0.88 (95%CI 0.76-1.02) 10 years before retirement and 0.92 (95%CI 0.83-1.02). This pattern reversed post-retirement with a RR of 1.12 (95%CI 1.01-1.23) 3-4 years after retirement and 1.28 (95%CI 1.11-1.48) 10 years or more after retirement. No significant changes in the consumption of high volumes (more than 8 units of alcohol) were observed: while the frequency of regular drinking might increase post-retirement, the instances of heavy episodic drinking do not necessarily rise. Additionally, a reduction in occasional heavy drinking episodes was noted both before (RR 0.86; 95%CI 0.77-0.95, 5-9 years prior) and after retirement (RR 0.78; 95%CI 0.66-0.93, more than 10 years after). These findings underscore the complexity of alcohol use behaviours in the context of retirement. The increase in regular drinking post-retirement might be attributed to changes in daily structure, social interactions, or coping mechanisms for life transitions. The decline in binge drinking suggests a shift towards more moderated consumption patterns as individuals age.

Speakers/Panelists:
Licia Iacoviello
University of Insubria, Varese, Italy
João Vasco Santos
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1.M. Scientific session: Young and lonely – exploring experiences, challenges, and potential solutions

Abstract citation ID: ckae144.053

Organised by: Defactum (Denmark)Chair persons: Julie Christiansen (Denmark), Anne Friis Bo (Denmark)
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Experiencing loneliness is a natural facet of human existence, often considered a normative aspect of adolescent life. However, for some adolescents, this experience evolves into a 'vicious circle' of prolonged loneliness, making it challenging to reconnect with their social environment. This issue is important given the significance of fulfilling social relationships during adolescence. Peer relationships are particularly important in facilitating various developmental processes such as identity formation, asserting of autonomy from parental influence, and acquisition of social skills. Loneliness among adolescents is notably high, as evidenced by mounting research highlighting its prevalence in this age group surpassing other age groups. Research spanning adulthood and old age consistently demonstrates loneliness as a risk factor for both mental and physical health outcomes, including stress, depression, chronic diseases, and premature mortality. Even during adolescence, loneliness is associated with adverse mental and physical health, with potential long-term consequences extending into adulthood. These findings underscore the imperative of addressing adolescent loneliness and the need for effective interventions and widespread solutions tailored to this demographic. This workshop aims to address adolescent loneliness, exploring their experiences, challenges, and the consequences of loneliness, while also addressing possibilities for mitigation and prevention. Through three presentations followed by a joint discussion with the audience, participants will gain important insights into this critical issue. The workshop will be chaired by Asst. Prof. Julie Christiansen (Defactum - Public Health Research, Denmark, and University of Southern Denmark). Julie Christiansen will provide an introductory overview, describing current knowledge of adolescent loneliness including prevalence, ascendants, and consequences, based on findings from the Danish National Health Survey (How are you?"). The first presentation will be given by Lily Verity (University of Manchester, UK), who will present the findings from a qualitative research study with adolescents highlighting factors that influence their approach to coping with loneliness. Following this, Prof. Mathias Lasgaard (Defactum - Public Health Research, Denmark, and University of Southern Denmark) and Dr. Anne Friis Bo (Defactum - Public Health Research, Denmark) will provide an overview of the intervention landscape, including current knowledge on the effectiveness of various intervention strategies. The presentation will also highlight the potential of community-based approaches. This will be exemplified through an introduction to the Danish initiative 'More Together' including 36 partners in Silkeborg Municipality. Lastly, Ph.D. student Lauren Burke (University of Manchester, UK) will present the findings from a comprehensive systematic review and meta-analysis of loneliness interventions for children and adolescents.

Key messages:

- The prevalence of loneliness among adolescents surpasses that of other age groups, substantiated by extensive research spanning nations.
- Loneliness during adolescence is potentially modifiable through targeted interventions.

Abstract citation ID: ckae144.054
Considerations for coping with loneliness from the perspective of young people

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Adolescence is a time characterized by high friendship instability. Adolescents have to navigate changes to their social worlds alongside developmental challenges such as identity formation. It makes sense then, that loneliness is a common experience during adolescence. For most, loneliness is transient and can be adaptive; it motivates individuals to strengthen their social relationships by seeking connection and evaluating existing relationships. For some, loneliness becomes chronic leading to heightened risk of additional mental health issues such as depression and anxiety, and physical health issues such as cardiovascular disease. Extant interventions to help youth cope with loneliness have been developed based on quantitative research and may be missing qualitative insights that can expand our understanding by identifying the decisions made by young people when determining how to cope. Exploring the lived experience of adolescents who are navigating loneliness can complement quantitative work by identifying preferred coping strategies, and barriers to coping adaptively. This presentation will focus on qualitative research with adolescents highlighting factors that influence their approach to coping. Drawing from insights gathered from 13 focus groups with young people aged 8-24 years in the UK, the presentation will discuss key themes developed to describe the process by which youth determine how to cope, the influence of their underlying reasons for feeling lonely, coping strategies that help to alleviate loneliness, and strategies which are counterproductive.

Abstract citation ID: ckae144.055
Challenges and possibilities in adolescent loneliness interventions

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Researchers typically associate the high prevalence of loneliness during adolescence with evolving dynamics and changes in relationships, both familial and peer-related. Consequently, transient feelings of loneliness are anticipated and considered part of the normative developmental process. While many adolescents naturally navigate through periods of loneliness by reconnecting with peers, a subset experiences prolonged feelings of loneliness. This group faces an increased risk of additional mental health issues and potential adverse health consequences. Such findings underscore the importance of effective and scalable interventions. This presentation draws upon a comprehensive meta-analytical review of loneliness interventions and a dedicated chapter in the upcoming Cambridge Handbook of Loneliness. focusing on interventions for adolescents. It will offer a brief overview of contemporary loneliness interventions and intervention strategies. Furthermore, it will discuss the unique considerations required when addressing loneliness in adolescents compared to other age groups. This includes the critical importance of loneliness prevention for adolescents, particularly within the school environment. Furthermore, the presentation will discuss the potential of community-based interventions aimed at tackling adolescent loneliness, showcasing the ongoing Danish community-based intervention ‘More Together.’ ‘More Together’ is a large-scale, complex, multi-component and multi-level intervention for community change that aims to reduce loneliness among young and elderly people. The intervention is rooted in an extensive cross-sector partnership. The presentation will highlight potentials and pitfalls encountered when addressing adolescent loneliness within a community setting.

Abstract citation ID: ckae144.056
Interventions to reduce loneliness in children and adolescents: A systematic review and meta-analysis

Lauren Burke

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Despite the growing focus on adolescent loneliness and loneliness interventions, our understanding of successful approaches for tackling loneliness in childhood and adolescence remains limited. While recent reviews have made advances in exploring loneliness interventions for this age group, our understanding of successful approaches remains limited. Key knowledge gaps persist, particularly concerning potential moderators - specifically, the characteristics that may determine the effectiveness of an intervention is sparse, leaving a significant gap in our understanding of which interventions are most effective and for whom. This presentation aims to fill this gap by presenting the findings of a systematic review and meta-analysis on interventions to reduce loneliness in children and adolescents. The presentation will provide a brief overview of the methodology employed and provide insights into the characteristics of the interventions reviewed, including an assessment of their overall effectiveness in alleviating loneliness. The primary focus, however, will be on presenting findings regarding the effectiveness of interventions across different participant groups, including variations based on socio-economic status, age group, pre-existing mental and physical health conditions, as well as baseline levels of loneliness. Additionally, the presentation will explore the impact of different intervention strategies on the effectiveness of loneliness interventions for children and adolescents. Lastly, the presentation will offer reflections on avenues for future research and practice based on the findings.

1.N. Scientific session: Child injuries monitoring and reporting: Challenges and technological developments

Abstract citation ID: ckae144.057

Organised by: EUPHA-INJ, -CAPH, EuroSafe IDB network
Chair persons: Maria Papadakaki (EUPHA-INJ), Julia Dratva (EUPHA-CAPH)
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Globally, more than 1,600 children and adolescents below the age of 19-years die every day from preventable injuries. Road traffic injuries, drowning and self-harm represent leading causes of death and injury among children and adolescents (WHO 2021; WHO Regional Office for Europe, 2021; Unicef, 2021). Most unintentional injuries in early childhood occur at home and children from less advantaged backgrounds are exposed to more hazardous home environments due to overcrowding or unsafe structures over which parents often have limited control (WHO, 2020). According to the IDB data analysis approximately 15% of home injuries could have been prevented by improved product safety and parental education. The COVID-19 pandemic and the conflict in Ukraine have created a complex and challenging situation for children and adolescents in the region, increasing their vulnerability and compromising their well-being. To efficiently prevent child injuries, one must account for a complex interplay between human factors as well as physical and socio-cultural environments. Multiple determinants of child injury cannot be addressed by the health sector alone, this is why a whole-of-government and a whole-of-society approaches are required. Schools have a crucial role to play for promoting the well-being of children and serve as a platform to increase access to health services. However, EU countries are still missing intersectoral collaboration and strong information systems to enable efficient response to the problem. Data on child injuries are still inconsistently collected in Europe due to substantial differences in coding systems, variation between injury mechanisms, different general policies pertaining to the admission of patients, and legal policies on reporting requirements. EU-wide networks such as the Eurosafe study (IDB network) collecting information on child injuries, are scarce. Likewise, access to healthcare services and support systems are unevenly distributed, particularly in underserved communities. Building country capacity in collecting, analysing and increasing the use of child injury data for decision making at global, regional, and national levels, is critical. Adequate epidemiological data on the burden of child injuries are necessary to allow governments prioritize areas for intervention and maximize the impact of their resources. Utilizing evidence-based tools and procedures and promoting intersectoral collaboration is vital. The workshop aims to discuss trends and inequalities of injury burden and present efficient measures and latest developments in monitoring and reporting child injuries across EU countries. The workshop will further discuss the methodological challenges in collecting and analysing data on child injuries. Evidence-informed tools for sharing health information and improved measurements of injury burden that are feasible and usable in both research and clinical contexts will be presented and success stories will be presented.

Key messages:

- There is an EU-wide need for epidemiological data on the burden of child injuries.
- Validated tools, well-designed injury data management systems and standard data collection procedures are missing.

Abstract citation ID: ckae144.058

Preventing unintentional injuries due to home and leisure time accidents in children: the parents' beliefs matters (CHILD Vigilance project - CHIVI)

Tatiana Alves

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Background: The CHILD Vigilance project is a European study supported by the Injury Prevention section of the European Public Health Association and aims at contributing to the epidemiological knowledge of injuries and accidents in Greece, Portugal and Lithuania, through increasing knowledge on parents' and caregivers' safety perceptions.

Methods: A descriptive, observational, cross-sectional study was developed in these countries between February and April 2023, under the CHILD Vigilance project. Information was collected online via a questionnaire exploring parents' and/or caregivers' knowledge, attitudes and risk perception towards prevention of unintentional injuries in children and adolescents.

Results: A total of 916 valid responses were obtained, involving 1229 children (51.4% male; mean age 7.8 years). Falls were perceived as the most common type of unintentional injuries in pre-schoolers and school-age children (47,8% in Greece; 63,5% in Portugal; 74,8% in Lithuania). Country differences were observed in terms of the most commonly perceived types of injury in adolescents, which were road traffic crashes in Greece and Portugal (41.2% and 39.5% respectively) vs poisonings in Lithuania (38.1%). Some differences were also observed between these countries as to the most common causes of death. In Greece and Lithuania diseases were reported as the main cause of death in pre-schoolers (62.5%; 35.1%) and in children attending primary education (55.1%; 29.7%), while injuries were identified as a cause only in the oldest group of children. In Portugal on the other hand, injuries were identified as the most frequent cause of death in all groups, pre-schoolers (40.5%), children attending primary education (47.1%) and in the oldest (55.1%).

Conclusions: The study emphasizes the need to address misperceptions, improve safety attitudes and invest more efforts in managing harmonised injury outcomes across global initiatives.

Abstract citation ID: ckae144.059

Machine Learning Approach to Injury Monitoring in Children and Adolescents

Sonja Feer

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Pediatric injuries are common and associated with individual suffering and costs for the healthcare systems and society. The incidence of injuries among children in Switzerland has so far been insufficiently monitored. Emergency department patient records can be a valuable database to assess medically relevant injuries and gain information for monitoring and evidence-based prevention. The talk will outline our stepwise development of a machine-learning program for a pediatric injury monitoring system and lessons learnt. In this feasibility study we draw on electronic case histories of children treated for injuries between 2018 and 2022 at the University Children's Hospital Zürich emergency department (N= to 30'884). The ML- approach follows different steps: step 1. utility evaluation of electronic pediatric patient records regarding ML and injury monitoring and prevention requirements in a test-sample of 100 electronic pediatric case histories; step 2. choice/adaptation of coding tree; step 3. coder training and inter-coder reliability testing; step 4. manual annotation of a sub-sample (n 1000) of the electronic pediatric patient records, step 5. design and testing of the ML program in an iterative process, and step 6. performance testing in a random sample of pediatric patient records. First lessons learnt indicate that electronic case history data contain relevant data and fulfill requirements for monitoring and prevention purposes. The IDB coding system proved too complex and detailed for the pediatric data base, providing too few examples for the ML-learning process, and needed to be adapted. Initial data analyses indicate the majority of cases are classified as less severe (73%) and only few (<1%) as very severe but the later provide the most detailed data. ML is a promising approach and makes use of hospital data for a national monitoring of pediatric injuries in Switzerland.

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Long-term disability following childhood injury: an imperative to monitor and address the continuum of trauma care

Shanthi Ameratunga

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Background: While injuries remain a leading cause of childhood death, increasing proportions of children survive life-threatening injuries. However, robust epidemiological data on their risks of long-term disability are scant, undermining comprehensive injury control efforts. This population-based prospective cohort study investigated the functional status and health-related quality of life of seriously injured Australian children over a 5-year period.

Methods: Patients aged <18 years hospitalised for major trauma (Injury Severity Score >12) in the State of Victoria over a 12-month period were followed-up at 6, 12, 24, 36, 48 and 60-months post-injury. Primary outcomes were assessed using the PedsQL, King's Outcome Scale for Childhood Head Injury and the Glasgow Outcome Scale-Extended. Multivariable regression models investigated factors associated with outcomes.

Results: Of the 186 participants, 71% were retained to 60 months post-injury. At five years post-injury, only 39% had fully recovered while 39% experienced moderate to severe disability. Despite gains in functional status across the five years, psychosocial recovery lagged improvements in physical health. Factors associated with adverse outcomes included older age at injury, female sex, socio-economic disadvantage, remote/regional (versus urban) residence, pre-existing comorbidities, and injuries deemed compensable, intentional, or involving head trauma.

Implications: The high risks of long-term disability following serious childhood injury highlight the need for robust injury control efforts that monitor and address the inequitable burden of childhood injury, including the social determinants influencing the occurrence as well as sequelae following injury.

Abstract citation ID: ckae144.061

Home and leisure accidents among children and young people up to 19 years old as an event observed in the EU-IDB surveillance system: 2012-2021 data

Tatiana Alves

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Paediatric injuries are widely acknowledged as a major public health issue among different medical disciplines. In the context of injuries and accidents, the surrounding environment of children and young people remains a major health concern. The present study was developed to extend current knowledge on the characteristics and magnitude of home and leisure accidents in this population. A descriptive, observational, cross-sectional study was developed under the EU-IDB (European Injury Database) collaborative network comprising up to 25 European countries and ten years of data collection (2012 to 2021). The methodology of the EU-IDB is a well consolidated standard for collecting injury data in Emergency departments, in compliance with the Eurostat methodological requirements for European health statistics. During the ten years of data collection in emergency departments, through EU-IDB surveillance 3 603 975 episodes of home and leisure accidents (HLA) were recorded at European level, involving people aged 0-19 years, constituting 34.5 % of hospital ED attendances due to HLA. Children and young people between 10 and 14 years old represented the major age group proportion of HLA(33.0%), the proportion of HLA increased across age groups until fourteen years old, being these differences statistically significant($p < 0,001$). Falls were the most common cause of injuries among all age-groups, in the youngest group up to 4-years(54.4%), the 5-9years old (52.2%), the 10-14years old (46.1%) and in the oldest group between 15-19 years(37.5%), representing 47.2% of the total HLA mechanism. As regards to the treatment/follow-up, the vast majority of the HLA episodes were not admitted to hospital (92.9%). Hospital ED Injury data represent very useful information on the health burden of non-fatal injuries in this population of interest. These data could be used for the design of injury prevention policies and regulations for accidents that occur at home, school and outdoor spaces.

1.O. Scientific session: Trans & Gender-Diverse Individuals' Mental & Behavioral Health Risks & Intervention Needs

Abstract citation ID: ckae144.062

Organised by: EUPHA-SGMHChair persons: Arjan van der Star (EUPHA-SGMH), Lovro Markovic (EUPHA-SGMH)
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Transgender and gender-diverse (TGD) individuals are at a greater risk for various poor mental and behavioral health outcomes than cisgender individuals, including higher rates of suicide, psychiatric diagnoses, and behavioral health problems. For example, research has documented a seven-fold increased risk for lifetime suicide attempts among young TGD people, compared with the general population. Less is known about the age of onset of such mental and behavioral health disparities and how these disparities may vary across other intersectional socio-demographic variables. It has been well-documented that trans and gender-diverse individuals often encounter discrimination and transphobia across various social, educational, professional, administrative, and healthcare settings. This discrimination, as highlighted in the literature, frequently poses obstacles to accessing both general and trans-specific healthcare services due to experiences of discrimination (e.g., misgendering, refusal of care, lack of adequate services). The right and ability to self-determine and the accessibility to gender-affirming care without discrimination are key to closing the gap in TGD individuals' mental and behavioral health outcomes, and for them to live authentically and thrive. Tailored and affirming mental and behavioral health interventions to reduce these health inequities are pivotal for TGD individuals to achieve the highest attainable standard of physical and mental health: a key fundamental human right. Considerable gaps in the literature remain concerning the onset and determinants of gender identity-based health disparities and healthcare approaches that are respectful, inclusive, non-pathologizing, and grounded in human rights principles for TGD individuals. This workshop intends to address these knowledge gaps by delving into the mental and behavioral health needs of TGD individuals. The workshop seeks to further foster dialogue on strategies to overcome resistance to implementing approaches that uphold the human rights and well-being of these communities. Dr. Richard Bränström (Karolinska Institutet) will present a study that explores the age at which gender identity-based disparities in psychiatric diagnoses and treatment can be first identified. Dr. Gonzales (Vanderbilt University) will examine disparities in mental health and social determinants of health among TGD individuals with private insurance. Dr. Moleiro (Lisbon University Institute) will review TGD persons' ways of identifying with the choices and trajectories in social, legal, and affirmative healthcare processes in Portugal. Dr. Lelutiu-Weinberger (Columbia University School of Nursing) will present findings from a study that assessed tobacco use and cessation attitudes, facilitators, and barriers to quitting, and intervention components and delivery modality acceptability among TGD individuals, as well as sexual minority individuals, in Romania to inform a tailored and affirming smoking cessation intervention.

Key messages:

- Transgender and gender-diverse are at increased risk for a variety of poor mental and behavioral health compared with the general public.
- There is a critical need to foster healthcare services for transgender and gender-diverse individuals that are tailored and affirming.

Abstract citation ID: ckae144.063
Gender identity differences in age of first mental health diagnosis: A population-based study of childhood and adolescence

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Introduction: Gender minority (GM; i.e., trans, non-binary, and other gender diverse) individuals have an increased risk of mental health disorders, but few studies have explored disparities using population-based samples or the age of onset of this risk.

Objectives: The aim of the current study was to identify the age at which the gender identity disparity in physician-assessed psychiatric diagnosis and treatment for common mental health disorders can be first identified in a population-based sample linked to national health care registries.

Methods: All individuals aged 16 to 25 (n = 18,793) participating in the nationwide probability-based Swedish National Public Health Survey in 2018, 2020, or 2021 were included in the analyses. This sample could be linked to mental health care treatment history data in nationally comprehensive health care registries starting at age 8 years old.

Results: Individuals reporting a GM identity in adulthood were seven times more likely to having been diagnosed with depression and/or anxiety and about five times more likely to having been diagnosed with a neurodevelopmental disorder during childhood or adolescence compared to individuals with a cisgender identity. GM individuals' increased likelihood of being diagnosed with depression and/or anxiety was significantly elevated from age 13, while their neurodevelopmental disorder diagnosis risk was significantly elevated from age 10, compared to cisgender individuals.

Conclusions: The results from this study are the first population-based evidence to show that GM individuals are more likely to be diagnosed and treated for mental health disorders early during childhood and adolescence compared to cisgender individuals. The early emergence of this increased risk requires further inquiry into causes of these early disparities. It also suggests a potential benefit of interventions that facilitate social belonging and inclusion and reduce stressors related to societal expectations of gender.

Abstract citation ID: ckae144.064
Disparities in Mental Health and the Social Determinants of Health Among Privately Insured Transgender Patients in the United States

Gilbert Gonzales

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Objectives: The purpose of this study was to examine disparities in mental health and the social determinants of health (SDoH) among privately insured transgender and gender minority (TGM) patients in the United States.

Methods: Data came from FAIR Health, a repository of private health insurance claims data covering over 150 million individuals in the United States. TGM patients (n = 274,479) were identified with medical claims that included a diagnosis for gender dysphoria or gender identity disorder. A random 5% selection of cisgender patients (n = 7,456,823) was used as a comparison group. We estimated descriptive statistics and used multivariable logistic regression models to compare health outcomes between TGM and cisgender patients.

Results: TGM patients were more likely to have anxiety (odds ratio [OR]=7.02; 95% confidence interval [CI]=6.94-7.09), depression (OR = 9.27; 95% CI = 9.16-9.37), post-traumatic stress disorder (OR = 9.03; 95% CI = 8.86-9.21), and substance use disorder (OR = 2.93; 95% CI = 2.86-3.00) compared to their cisgender peers. TGM patients were also more likely to have problems with education and literacy (OR = 5.95; 95% CI = 5.64-6.28), employment (OR = 3.67; 95% CI = 3.44-3.92), economic circumstances (OR = 5.74; 95% CI = 5.39-6.12), and social exclusion (OR = 7.35; 95% CI = 6.91-7.81). Compared to TGM patients living in states with transphobic policy environments, TGM patients in states with comprehensive protections from discrimination fared better.

Conclusions: We found wide disparities in mental health and the SDoH among privately insured TGM. More research is critically needed to better understand the health and social needs of TGM populations. Meanwhile, policymakers should consider enacting policies that would prohibit discrimination against TGM people throughout the SDoH – or the conditions where we live, learn, work, play, and age. Health care providers should also receive education on the unique health needs of TGM patients to advance health equity.

Abstract citation ID: ckae144.065
Self-determination and self-affirmative paths of trans* and gender diverse people in Portugal: Diverse identities and healthcare

Carla Moleiro

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Background: Trans* and gender diverse (TGD) people are very heterogeneous. While legal contexts and healthcare practices have been growingly endorsing self-determination and consent for gender affirmative care in some countries, gender affirmation trajectories need to be understood as unique and fluid processes, constructed and negotiated by each individual in a given social and cultural context. This study aimed to characterize diverse profiles of TGD people in Portugal, regarding individual choices and trajectories in social, legal, and medical gender affirmative processes.

Methods: A questionnaire, first developed in France and used in Brazil, Italy, Norway, and Chile, was adapted to the Portuguese context. The conducted survey is comprised of 120 questions, organized into six sections: 1) sociodemographic variables; 2) gender affirmation processes and medical and psychological care; 3) general health and sexual health; 4) mental health; 5) sexuality and sexual concerns; 6) experiences of discrimination and gender identity. Data were collected from a convenience sample of 115 adults who identified as TGD. Content analysis was performed on the written responses, and later categorized.

Results: Approximately 21% of people identified as men, 17% as trans men, 7% as women, 12% as trans women, 26% as non-binary persons, and 17% as agender or other identifications. Differences were calculated among profiles of TGD participants and their choices for affirmative care, social, and legal transition, revealing an association between the way people self-identify and the request for legal recognition of gender identity, as well as the choices of procedures (or aspirations) for medical affirmation (i.e., hormonal treatments, top surgery, bottom surgery).

Conclusions: The provision of health care practices consistent with the principles of self-determination requires training of health care professionals and adjustment of public policies, to allow for unique trajectories and profiles.

Abstract citation ID: ckae144.066
Development of a first intervention for tobacco cessation for sexual and gender minority individuals in Romania

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Background: Data on tobacco use among SGM in Romania indicate high use rates, yet tailored smoking cessation efforts do not exist. We collected data from SGM individuals in Romania on tobacco use and cessation attitudes, facilitators and barriers to quitting, and intervention components acceptability to inform the first smoking cessation intervention for SGM in Romania, adapted from a U.S.-based intervention with mobile app support.

Methods: SGM individuals ($\geq$ 18 years old, current smokers) recruited through community outreach in March 2024 completed a brief assessment and participated in a focus group regarding tobacco use, attitudes, norms, risks knowledge, facilitators and barriers to quitting, and intervention acceptability.

Results: Focus groups were held with 36 participants characterized as 45% cis male, 40% gender-diverse, 15% cis female; 40% gay, 33% bisexual, 10% queer, 8% pansexual; 6% lesbian, 3% heterosexual; M age=27, SD = 7.62. 70% smoked daily; median age of first cigarette was 17. Participants reported smoking up to 2 packs a day, with 50%-98% of people in their circles being smokers. Common reasons for smoking included to alleviate stress and "fit in." Most did not receive support to quit from their social circles or within healthcare. While smoking was communal, quitting was individual and siloed, suggesting a preference for a group-based intervention, along with robust strategies to replace the function of smoking with adaptive habits. The app was evaluated positively, especially for its daily smoking tracking, reminders for alternative healthy activities, positive achievements, and forum for support.

Conclusions: Findings provide a solid platform for creating a first smoking cessation intervention for SGM individuals in Romania. Next steps include iterative testing of the mobile app to examine comprehension, usability, and satisfaction with content and functionality, in preparation for a randomized controlled trial testing the intervention's efficacy.

1.P. Round table: How could a perfect monitoring and response system look like?

Abstract citation ID: ckae144.067

Organised by: Social Physics and Complexity Lab (Portugal)
Chair persons: Joana Gonçalves-Sá (Portugal), Ana Bento (USA)
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Robert FitzRoy, captain of the Beagle, was ridiculed when he started to assemble a network of telegraphs to be able to follow storms at sea: in the 19th century, predicting the weather, even in the short term, was considered impossible. 150 years later, meteorological institutes around the world may have helped prevent millions of deaths. Dynamic and complex systems are particularly difficult to predict: we still don't know exactly when the glaciers will collapse, when the next variant of a virus will appear, how intense the next earthquake will be. In fact, and as the COVID-19 pandemic has shown, most services are unprepared to adjust to such fast evolving-situations: in general, we are limited to trying to react and adapt, but systematically fail at prediction and planning, with important consequences. Moreover, disease outbreaks, scientific research, public health response(s) and legislation happen at completely different time scales, and are not prepared to communicate with (or even understand) each other. Therefore, a fundamental question is how we can create structures that, similar to what FitzRoy imagined, are prepared to anticipate and respond to health threats, when they appear. During this round table, we will bring together experts that use different perspectives (One Health, Digital Epidemiology, Health Policy) and discuss what is needed to build the "perfect" system, in an ideal world. We will argue in favor of 1) creating efficient systems for collecting and processing good quality data, fundamental for any decision making; 2) training multidisciplinary teams to work on the full pipeline from performing complex analyses, using mathematical and computational tools, to communicating with the decision-makers and the population; 3) prepare institutions to network, nationally and internationally; and 4) simulate different scenarios and design medium-term strategies. We will recognize and highlight many of the challenges of such an integrated approach, from data availability and sharing, to communicating under uncertainty, but also the risks of not even trying to do so. We expect to make very brief presentations, to leave abundant time for audience feedback and discussion.

Key messages:

- It is urgent to create structures prepared to anticipate and respond to health threats. These should be local but integrated at the international level.
- Their creation faces many challenges, from data collection and sharing to decision making and communication, that should be recognized and tackled using multidisciplinary, integrative approaches.

Speakers/Panelists:
Joana Gonçalves-Sá
Social Physics and Complexity Lab, Lisbon, Portugal
Ana Bento
Cornell University, Ithaca, USA
Daniela Paolotti
ISI Foundation, Turin, Italy
André Peralta-Santos
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1.Q. Round table: Primary healthcare workforce crisis in Europe: global policy discourse and national implementation

Abstract citation ID: ckae144.068

Organised by: European Observatory on Health Systems and Policies, WHO European Centre for Primary Health Care, WHO Collaborating Centre for Health Workforce Policies and Planning, EUPHA-HCW
Chair persons: Michelle Falkenbach (Germany), Ellen Kuhlmann (EUPHA-HCW)
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Background: Primary healthcare (PHC) has emerged as a powerful global concept, but little attention has been directed towards the pivotal role of the healthcare workforce and the diverse institutional setting in which they work. Recent WHO efforts have underscored the challenges in aligning the global PHC-oriented model with national health systems, highlighting the need for tailored approaches to fulfil diverse needs and contexts. Although significant progress has been made in advancing PHC, some gaps persist, particularly surrounding the integration of PHC and healthcare workforce debates and its prioritisation within national health agendas. These gaps lead to disconnects between PHC policy implementation and workforce considerations, exasperating the existing workforce crisis and obstructing effective service delivery.

Objectives: This workshop bridges the gap between PHC workforce policy and the ongoing healthcare workforce crisis, focusing on the European region and different types of health systems, socio-economic conditions, health labour markets and workforce compositions. We apply a health system and multi-level governance approach, arguing the need for greater attention to the implementation of global policy concepts and the diverse national and regional conditions, interests, and needs. The workshop begins with an overview of the PHC workforce situation, presenting novel results drawn from European comparative research and nine selected country case studies, followed by a panel discussion. The panellists provide in-depth evidence on various PHC workforce challenges and introduce illustrative examples of policy interventions and good-practice models coming from the case countries. Insights from the WHO Centre for Primary Health Care advance the debate by highlighting strategies and capacity for transformative PHC workforce policies, and the need for further investigation to critically align global and national approaches. The policy recommendations emerging from the panel will be critically reflected in a plenary discussion. The workshop will stimulate debate and improve knowledge exchange across countries, in particular in the WHO European region, as well as between research, policy and practice. It will strengthen both the PHC model and the healthcare workforce, and finally advance the building of resilient health systems.

Key messages:

- Shift the primary healthcare debate from idealistic attributes to actionable implementation strategies, emphasising policy dynamics, political contexts, and diverse stakeholder interests.
- Understand the various PHC-oriented models and their dynamics to determine the necessary quantity, competencies, and composition of HCWs and how they can be governed effectively to implement PHC.

Abstract citation ID: ckae144.069

The primary healthcare workforce crisis: a comparative assessment of the European region

Ellen Kuhlmann

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Background: The healthcare workforce crisis strongly affects the primary healthcare sector, worsening the work conditions of healthcare workers and hampering service delivery and health system resilience. This study introduces a health system and governance approach to identify transformative capacities in health system contexts.

Methods: A qualitative comparative methodology was employed, and a rapid assessment of the primary healthcare workforce was conducted across nine countries: Denmark, Germany, Kazakhstan, Netherlands, Portugal, Romania, Serbia, Switzerland, and the United Kingdom/ England.

Results: Our findings reveal both convergence and pronounced diversity across the healthcare systems, with none fully aligning with the ideal attributes of primary healthcare suggested by WHO. However, across all categories, Denmark and the Netherlands, and to a lesser extent also Kazakhstan, depict closer alignment to this model than the other countries. Workforce composition and skill-mix vary strongly, while disparities persist in education and data availability, particularly within Social Health Insurance systems. Policy responses and interventions span governance, organisational, and professional realms, although with weaknesses in the implementation of policies and a systematic lack of data and evaluation. The WHO primary healthcare model only marginally informs policy decisions, but it may receive some more attention in Kazakhstan.

Conclusions: We conclude that aligning primary healthcare and workforce considerations within the broader health system context may help move the debate forward and build governance capacities to improve resilience in both areas.

Speakers/Panelists:
Tiago Correia
NOVA IHMT, Lisbon, Portugal
Viola Burau
Aarhus University, Aarhus C, Denmark
Marius-Ionuț Ungureanu
Babeș-Bolyai University, Cluj-Napoca, Romania
Anna Sagan
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2.A. Practice session: Policy labs: getting public health research into policy and practice

Abstract citation ID: ckae144.070

Organised by: The Policy Institute King's College London (UK)
Chair persons: Harriet Boulding (UK), Tianne Haggar (UK)
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The process of translating health research into policy and practice benefits is often too slow, taking an average of 17 years globally. Additionally, health policy changes fail when they have an inadequate understanding of the communities and challenges they seek to address. The Policy Institute at King's College London has developed an innovative 'Policy Lab' method, which convenes diverse policy and practice stakeholders such as health workers, patients and policymakers, to discuss a policy challenge, assess the evidence and co-produce viable policy options. The proposed workshop introduces this method in a practical, impactful session aimed at helping participants from any country and research background mobilise their research to improve health outcomes. Policy Labs have been shown to be highly successful method. Previous Policy Lab outcomes include influencing changes to the Mental Health Act in the UK, new international guidance on treatment of type 2 diabetes, and a global coalition on paying for prevention in dentistry. The method can be adapted to different health challenges and considers the potential for change in local, national and international arenas. The workshop teaches this method in a way that enables researchers to apply it to their own work, harnessing the potential of research to improve health outcomes.

Objectives of the workshop: The workshop aims to teach people the skills to design and run a Policy Lab so that they can better mobilise their research into policy and practice.

Participants will learn: To develop policy-relevant questions from their research; Stakeholder mapping; To design a policy lab agenda; To develop a research engagement plan.

What is the added value of the workshop? The workshop teaches an innovative method that helps researchers greatly increase the policy impact from their work. It provides attendees with practical tools to employ in their own work and bridge gaps between their research and policy and practice changes.

The format of the workshop will involve a short presentation on Policy Labs by facilitators, followed by four brief interactive activities for participants, as follows: Facilitator presentation: (10 mins) Introducing the Policy Lab method; Group work 1: (10 mins) Developing a policy-relevant question; Group work 2: (10 mins) Stakeholder mapping; Group work 3: (10 mins) Designing a lab agenda; Group work 4: (10 mins) Developing a research engagement plan. We have allowed 10 minutes to adapt to any arising demands, as well as to bring the session to a close with some key messages. Participants will be guided by the facilitators, and we will use template handouts for participants to complete during the session to reinforce learning. The handouts also ensure that those who wish to work independently rather than in groups may do so if preferred, and will provide participants with the practical tools necessary should be they arrive late or need to leave early.

Key messages:

- Policy Labs are an effective way for researchers to have policy and practice impact with their work.
- Participants will learn how to run a successful Policy Lab, and improve their research impact.

Abstract citation ID: ckae144.071

Introducing the Policy Lab Method

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The workshop will begin with a brief presentation providing an overview of the Policy Lab method. The presentation will address how to develop a policy-relevant question from research, introduce stakeholder mapping, and introduce techniques for designing a lab agenda and engagement material. This introductory presentation will lay the groundwork for the practical sections of the workshop in which participants will explore these techniques.

2.B. Scientific session: Learning from intercountry comparisons in digital healthcare transition monitoring

Abstract citation ID: ckae144.072

Organised by: NIVEL, Università Cattolica del Sacro Cuore (Italy), University of Copenhagen (Denmark)
Chair persons: Gemma Williams (UK)
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In many countries, healthcare is facing several challenges, including increasing healthcare demand, healthcare workforce shortages, rising healthcare costs, and keeping healthcare accessible. It is thought that the use of digital health might help to tackle these challenges. However, digital health programs and interventions are often not (systematically) monitored or evaluated. Monitoring of the digital healthcare transition in countries over time helps policymakers and healthcare professionals to investigate which digital services work well, and which do not, to (partly) solve the experienced challenges. In Europe, several countries monitor the digital healthcare transition within the primary and secondary care in their country. Comparing and sharing the monitoring methodologies between countries and describing the current state of the digital healthcare transition in primary and secondary care, will help to learn from other countries about how digital health could help to tackle the frequently experienced healthcare challenges. During this workshop, three countries throughout Europe (the Netherlands, Italy and Denmark) will briefly share their methodologies used for monitoring the digital healthcare transition in their country and will provide an up-to-date overview of the current state of the digital healthcare transition in primary and secondary care in their country. Challenges, achievements and future plans for the monitoring of this transition will also be shortly discussed in 10-minute presentations. Further, there will be 25 minutes for audience interaction which will be moderated by the chairperson. During this discussion, there is time to hear experiences from other countries and explore best practices in monitoring the digital healthcare transition.

Key messages:

- The digital healthcare transition can be monitored in different ways. Experiences from three European countries may inspire others to organize national monitoring programs.
- The speed and nature of the digital healthcare transition differs between European countries. Experiences from three European countries provide insight into state of the art of national transitions.

Abstract citation ID: ckae144.073
Monitoring the digital healthcare transition in the Netherlands: Challenges, achievements and future

Jelle Keuper

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Since 2013, the Netherlands Institute of Health Service Research, along with other Dutch research institutes, has monitored the digital healthcare transition in The Netherlands. Through annual surveys of both healthcare professionals (from primary and secondary care) and users (patients as well as the general population) from 2013 to 2023, trends in digital health utilization and experiences have been tracked. Overall, there has been a steady increase in digital care adoption since 2013, but in 2023, growth among professionals stabilized while slightly rising among users. Some tools saw significant increases, like automatic medicine dispensers and home monitoring, freeing up nurses' time. Utilization patterns differ among patients according to their educational attainment and age, showing lower usage rates among older individuals and those with lower levels of education. Most professionals, especially nurses, view digital care positively, but they recognize its limitations in solving healthcare challenges entirely. Healthcare professionals believe it offers only a limited contribution to cost management, workload reduction, and job satisfaction and emphasize the need for seamless integration into routine care. User opinions are divided, with those with chronic conditions often expressing skepticism. Both professionals and patients agree that personal experience is crucial in determining its value. Additionally, ensuring user-friendliness and clarifying reimbursement for digital healthcare are essential. This workshop provides an overview of developments in the Netherlands and a discussion of challenges, achievements, and prospects. Particular attention will be paid to the monitoring of digitalization progress and effects, and the use of digital solutions in primary and secondary care.

Abstract citation ID: ckae144.074
Monitoring the digital healthcare transition in Italy: Initiatives, metrics and feedback from Primary Care Physicians

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Italy's healthcare sector has undergone significant digital transformation since 2008, driven by national strategies and reforms overseen by the Ministry of Health, the Ministry of Economy and Finance, and the Agency for Digital Italy. Key initiatives include the establishment of centralized booking systems, electronic health records (EHR), ePrescription, dematerialization of medical reports and disease certificates, patient summary, and telemedicine services. Despite regional variations, progress in the EHR adoption has been notable. Ongoing investments under the 2021 National Recovery Plan aim to further enhance digital healthcare infrastructure by 2025 through the involvement of the Italian National Agency for Regional Healthcare Services (AGENAS). Currently, Italy monitors progress through comprehensive measurement frameworks tracking digital health initiatives' implementation and impact. These encompass indicators reported quarterly by public healthcare facilities regarding the implementation of patient portals, regional registries, network infrastructure, regional EHR systems (i.e., n° of users), and digital laboratory reports. In parallel, we conducted a cross-sectional survey assessing knowledge, opinions and concerns among primary care physicians (PCPs) following the 2022 reform, which introduced Community Hospitals, Community Houses, and telemedicine in primary care. The survey highlighted mixed opinions and insufficient knowledge among PCPs regarding the novelties. Clearer communication and coordination with territorial services appears necessary. Many GPs are engaging in telemedicine, but digital literacy gaps remain, as only 35.7% believed they had necessary digital literacy. This is an insight into Italy's digital health roadmap, mainly involving primary care and focusing on achievements, challenges, and future prospects in utilizing digital solutions across healthcare settings.

Abstract citation ID: ckae144.075
Monitoring the digital healthcare transition in Denmark: Challenges, achievements and future

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Denmark is often mentioned as one of the countries that have introduced digital solutions early and extensively within the health care sector, including the launch of health portal sundhed.dk in 2003, the introduction of the e-record system 'e-Journalen' in 2007, and the establishment of a national infrastructure for telemedicine in 2012. Denmark is well advanced in digital health measurement, providing opportunities for researching the digital transition and its effects for healthcare organizations and Danish citizens. Most digital health data is collected through national population-based databases and registries. Additionally, annual surveys of health professionals and biennial surveys of citizens' use of health IT are conducted. Recent data show that all general practitioners use electronic health records, mainly for receiving laboratory test results from hospitals, ordering prescriptions at pharmacies, exchanging records, and sending referrals to hospitals. This workshop provides an overview of developments in Denmark and a discussion of challenges, achievements, and prospects. Particular attention will be paid to the monitoring of digitalization progress and effects, and the use of digital solutions in primary and secondary care. Issues about implementation and evaluation of digital infrastructure will be discussed with examples from Danish health care. A key question is whether digital solutions can fulfill their promise of supporting integrated and home based health care in an era of changing demographics.

2.C. Round table: A Pandemic Treaty to deliver global health equity: negotiating under a ticking clock

Abstract citation ID: ckae144.076

Organised by: EUPHA-GH, -LAW, -IDCChair persons: Elena Petelos (EUPHA-HTA, -GH), Amandine Garde (EUPHA-LAW)
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Access to medical countermeasures (vaccines, therapeutics, diagnostics), fair resource allocation and a global health framework to counter future pandemics are to be provided for by the Pandemic Treaty, intensely debated in the Intergovernmental Negotiating Body (INB) over the past two years. The final negotiations round began under tremendous pressure (Apr 29, 2024), with dissonance on structural treaty elements and a ticking clock to finalise the text at the World Health Assembly (end of May 2024). At a time of shifting geopolitical powers, in a year of elections across the world, war in Europe and rising defence expenditure, countries are reluctant to commit; the draft postpones key decisions, proposing to establish two intergovernmental working groups for instruments on One Health and prevention, and on a Pathogen Access and Benefits (PABS), with technology transfer and capacity-building remain largely unaddressed, despite COVID-19 lessons. With EU and G7 countries holding to their positions on surveillance, financing, and intellectual property (IP), negotiations will continue. A more critical question remains: will the Treaty's be adequate and timely enough to meet the challenges of inevitable future pandemics? Will it deliver the global framework of its foundational purpose of equity and justice? This RT aims to inform and involve the European public health community, continuing the series of activities embarked upon at the beginning of the pandemic, empowering its members for evidence-informed advocacy and concerted action. Following a brief presentation on the Treaty's key provisions, each panel member will deliver a brief (2-3 min) intervention based on core expertise, with two rounds of panel questions/statements to follow, and with an interactive element to prioritise and submit questions. The first elaborating on the current provisions, linking them to the key expertise of panel members, i.e., international and EU law, public health law, One Health and infectious disease control, global health policies, technology transfer, fair pricing and access to countermeasures. The second examining what can be achieved via evidence-informed advocacy, and with a special focus on the role of the European public health community. Has it been well represented so far in negotiations? Should it be more involved? Is it well equipped to provide expert advice to Europe's policymakers? Is there complementarity in relation to Europe's Global Health Strategy (GHS) and national global health plans? Finally, the role of WHO will be briefly debated. How can sovereignty be safeguarded without compromising implementation? What is the role of transparency and sound governance to remain in line with national and EU laws and priorities? The last five minutes of this RT will be used to consolidate messages and share plans to inform future formal EUPHA positioning in negotiations.

Key messages:

- Pandemic accord deliberation has have taken place under extreme urgency and geopolitical pressure. The European public health community must be informed and engaged for EU and country-level advocacy.
- At a time of permacrisis, the adoption of a global framework for fair resouce allocation, access to medical countermeasures,and to strengthen health systems for future pandemics is urgently needed.

Speakers/Panelists:
Sujitha Subramanian
University of Liverpool, Liverpool, UK
Dimitra Lingri
European Healthcare Fraud and Corruption Network, Brussels, Belgium
Debjani Muller
HTAi, Edmonton, Canada
Ricardo Mexia
National Institute of Health Dr. Ricardo Jorge, Lisbon, Portugal
Bettina Borisch
WFPHA, Geneva, Switzerland

2.D. Pitch presentations: Health equity and ethics

Abstract citation ID: ckae144.077

Accessibility of digital healthcare in 2023: insights from a Dutch national survey study

Lilian Van Tuyl

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Background: Digital technology is reshaping healthcare, offering potential improvements in accessibility, efficiency and quality. However, to realize potential benefits, ensuring equal access for all is crucial. We investigated digital healthcare usage and studied differences in use across age groups and educational backgrounds in the Netherlands.

Methods: Surveys were conducted among general healthcare users (n = 837, any citizen living in the Netherlands with access to healthcare) and healthcare users with chronic conditions (n = 1437). We studied their digital skills (can you independently use a computer, tablet or smartphone; digital applications; email and apps?) and their use of digital selfcare (did you use websites for health-related information or treatment?). Findings are stratified for educational level (low/medium/high) and age (15 -39, 40-64, over 65 years). Data collection occurred between April and August 2023, focusing on the twelve months preceding the survey.

Results: The majority of respondents use digital devices independently (range: 78-91%), but these percentages vary between subgroups, from 48-65% for users with lower education vs 86-99% for users with higher education. Similar differences exist across age groups: 98-100% of users aged 15-39 use a computer, tablet or smartphone, in contrast with 59-78% in the over 65 years age group. Similarly, the use of websites for health information is 22-31% among lower educated users to 68-70% among higher educated users; and 36-48% among those $\geq$65 years to 73-75% among respondents aged 15-39.

Conclusions: Substantial variation exists in the use of digital tools and digital selfcare across ages and educational levels. These findings underscore the urgency of addressing inequalities in access to digital healthcare, serving as a call to action for policymakers, healthcare providers, and developers to collectively strive for an accessible (digital) healthcare system for all.

Key messages:

- Differences in use of digital tools and digital selfcare among people of different ages and educational levels warrants the need for co-creation and tailored development and implementation.
- Differences in use of digital tools and digital selfcare among people of different ages and educational levels warrants the need for co-creation and tailored development and implementation.

Abstract citation ID: ckae144.078

Territorial health inequalities in breast cancer mortality across France from 1968 to 2017

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Background: Territorial health inequalities are of growing concern in countries with universal health systems. From 2003, three successive national cancer plans were launched in France, aiming to improve prevention and treatment. Regions in France are responsible for strategic and financial management of healthcare within their boundaries, which, until 2016, included up to 8 departments. In this study, we analyze the evolution of between and within-region territorial inequalities in breast cancer mortality over 50 years.

Methods: We used direct and indirect standardization to analyze trends in breast cancer mortality for women aged 25 to 74 years between 1968 and 2017 in each department of metropolitan France. We analyzed the evolution of relative inequalities over time using standard errors of age-adjusted rates. We used multilevel Poisson regression to estimate how much the regional level contributed to territorial variation.

Results: Over the period 1968 to 1992, breast cancer standardized mortality ratios (SMRs) increased (+16%) while relative territorial inequalities decreased (-21%). After 1997, SMRs decreased (-23%) but territorial inequalities remained unchanged. In 18 out of 22 regions, inequalities were lower at the end than at the start of the study period. Period proved to be the most important determinant of variation in mortality. However, multilevel models also suggested that the regional level explained most of the remaining variation in each period (from 50% to over 80%).

Conclusions: Over the study period in most French regions, breast cancer mortality has decreased, and so have relative inequalities. Nevertheless, there is evidence that regions have performed differently. The proportion of variation explained by the regional level suggests the continued relevance of the health system on breast cancer mortality.

Key messages:

- Territorial inequality in breast cancer mortality has decreased in France over the 1968-2017 period.
- In most regions, disparities between departments have decreased.

Abstract citation ID: ckae144.079

Did social inequalities in child development change during the COVID-19 pandemic in Germany?

Stephanie Hoffmann

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Background: Early childhood development (aged $<$6 years) is dependent on the social conditions in which children live and strongly affect their life course trajectory. This study describes changes in social inequalities in language development during the COVID-19 pandemic based on data from the legally prescribed school entry examination in the German federal state of Brandenburg. The aim is to inform public health interventions for individuals at risk of long-term health inequalities.

Methods: Secondary data from three cohorts of 5-7-year-olds were used [n = 19,2992018|19; n = 19,9162019|20; n = 19,6982020|21]. Language development was assessed as delayed compared to peers [LD yes/no], measured by public health services using validated instruments. Descriptive bivariate and multivariate analyses [OR, 95%CI] examined language delay [%] with social inequalities defined by (1) an index composed of parents' reported education and occupation [SEP low|high], (2) 'German native language' [yes-|no] and (3) 'years of kindergarten attendance' [$<4|\geq4$].

Results: Overall, the proportion of LD decreased over the years (21.1%2018|19; 19.2%2019|20; 18.8%2020|21), both among children from families with high SEP (14.3%2018|19; 13.0%2020|21) and from German-speaking families (20.2%2018|19; 17.8%2020|21). LD rates among children increased with low SEP (42.4%2018|19; 43.4%2020|21) and remained constant with a non-German native language (36.0%2018|19; 35.5%2020|21). The probability for LD differed only for SEP (2018|19: ORlow|high=4.4, 3.93-4.94; 2020|21: ORlow|high=5.12, 4.54-5.77) and for native language (2018|19: ORnon-German|German=2.22, 1.86-2.66; 2020|21: ORnon-German|German=2.54, 2.19-2.95).

Conclusions: Social inequalities in language development based on SEP and native language increased slightly during the pandemic compared to the pre-pandemic period. Research should examine the effects of the pandemic on early development as well as protective and risk factors on a longitudinal basis.

Key messages:

- Social inequality in early development increased in Germany during the COVID-19 pandemic.
- To reduce health inequality in the life course, longitudinal research should assess the impact of the pandemic on child development.

Abstract citation ID: ckae144.080
Socioeconomic inequalities in avoidable mortality: results from the Italian nationwide cohort

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Background: Inequalities in avoidable mortality have been well evaluated in many European countries. We aimed to assess the association between socioeconomic status and avoidable mortality in Italy.
Methods: The nationwide closed cohort of the 2011 Census of Population and Housing was followed up for 2012- 2019 mortality. Outcomes of preventable and of treatable mortality were evaluated among people aged 30-74. Exposures were education level and residence macro area (North-West, North-East, Center, South-Islands). Adjusted mortality rate ratios (MRRs) were estimated through multivariate quasi-Poisson regression models, by sex and group of causes, taking into account age at death and macro area of residence. Relative index of inequalities (RII) was estimated for preventable, treatable, and non-avoidable mortality and for some specific causes.
Results: The cohort consisted of 35,708,459 residents (48.8% men, 17.5% aged 65-74), 34% with a high school diploma, 33.5% living in the South-Islands; 1,127,760 deaths were observed, of which 65.2% for avoidable causes (40.4% preventable and 24.9% treatable). Inverse trends between education level and mortality were observed for all causes; comparing the least with the most educated groups, a strong association was observed for preventable (males MRR = 2.39; females MRR = 1.65) and for treatable causes of death (males MRR = 1.93; females MRR = 1.45). Highest RII were observed for HIV/AIDS and alcohol-related diseases (both sexes), drug-related diseases and tuberculosis (males), and diabetes mellitus, cardiovascular diseases, and renal failure (females). Higher risks of preventable and of treatable mortality were found for those living in the South-Islands.
Conclusions: We documented relevant socioeconomic inequalities in avoidable mortality in Italy, especially in the Southern regions. They represent a possible missed gain in health and suggest a reassessment of priorities and definition of health targets with the lens of equity.

Key messages:

- An inverse socioeconomic gradient in avoidable mortality was observed in Italy, both for preventable and for treatable mortality, with geographical heterogeneity.
- Greatest social disparities were found in mortality for causes strongly associated with risk behavior and for which it is possible to identify risk factors on which to intervene.

Abstract citation ID: ckae144.081
Are health inequalities decreasing in Sweden?

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Background: The overarching national goal for the Swedish public health policy is to create societal conditions for good and equitable health for all and to eliminate avoidable inequalities within a generation (until 2048). To know whether we are heading towards the public health policy goal, a surveillance system which follows a combination of several inequality measures over time, is needed.
Methods: All-cause mortality in age 25-64 and life expectancy at age 30, in the total population of Sweden, were used as measures of health and followed 2006-2022. Education (low, middle, high) was used to measure socioeconomic position. Both absolute and relative, and both simple and complex measures were used to analyse inequalities in mortality: rate difference (RD), relative risk (RR), population attributable fraction (PAF) and population attributable number (PIN). Life expectancy was analysed as absolute and relative difference in remaining number of years.
Results: Life expectancy has increased and mortality in age 25-64 have decreased in the Swedish general population. Comparing those with low and high education, both absolute and relative inequalities have increased, e.g. differences in life expectancy increased to > 6 years among men and almost 7 years among women, and relative inequality in mortality in age 25-64 increased to > 3 times higher risk (RR 3.1; CI 3.0-3.3). Inequality, measured with regard to all groups in the population, showed no noticeable changes over time.
Conclusions: The results show that Sweden is facing a challenge in achieving the public health goal to eliminate avoidable inequalities by 2048, with regard to life expectancy and mortality in age 25-64. To use a combination of health inequality measures strengthens the surveillance system and gives a more nuanced picture of the development. It enables, in parallel with universal health improving efforts, focus on the groups with the poorest health, where efforts have the greatest effect.

Key messages:

- Sweden is facing a challenge in achieving the public health goal to eliminate avoidable inequalities by 2048, with regard to life expectancy and mortality in age 25–64.
- A more nuanced picture of inequalities is crucial to be able to parallel universal health-improving efforts with a focus on the groups with the poorest health, where efforts have the greatest effect.

Abstract citation ID: ckae144.082
Inequities in child health in Luxembourg

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Background: In Luxembourg, despite its economic prosperity, 28.6 % of children are estimated to be at the risk of poverty. Research has shown that growing up with socioeconomic disadvantage is associated with worse physical and mental health in childhood. We explore the association of socioeconomic status with health, health behaviours and access to healthcare in Luxembourg for children up to age twelve.
Methods: We used data from 2014 to 2022 for 11-12 year old children from the Health Behaviour in School-aged Children (HBSC) survey as well as social security data from Luxembourg for a similar time period and children 0 to 12 years old. To assess socioeconomic status, we used information on self-perceived household wealth for the HBSC results and stratified health and health behaviours by well-off, average, or less well-off households. For the social security data, we stratified access to care indicators by equivalized household income quintiles.
Results: We found that physical activity levels, nutritional quality and daily routines such as eating breakfast and brushing teeth are significantly lower in children from less affluent families. For example, 61% of 11-12-year-old children from well-off families reported eating breakfast every day, but only 41% of children from less well-off families. Only 23% of 11-12 year olds from less affluent families rated their health as excellent, compared to 52% of children from affluent families. There were similarly large differences for multiple health complaints, with 63% of children from less affluent families reporting this indicator for psychosomatic

problems, compared to 34% of children from affluent families. We did not find differences in the use of pre- and postnatal care visits.
Conclusions: Socioeconomic differences in child health, mental health and health behaviours are large, with children from poorer households being in worse physical and mental health and less likely to report positive health behaviours.

Key messages:

- Many children in Luxembourg face socioeconomic challenges that are adversely associated with health and health behaviours. The underlying reasons require further attention to improve child health.
- Children from poorer backgrounds are in significantly worse mental health than children from better off families in Luxembourg.

Abstract citation ID: ckae144.083
Research ethics implications in the development of personalised therapy for pediatric SIRS patients

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Background: Pediatric Systemic Inflammatory Response Syndrome (SIRS) presents diagnostic and therapeutic challenge that can be addressed through personalised therapy. Related ethical challenges are understudied. Our report aims at identification and analysis of research ethics implications within the bigger ERA PerMed funded project of development of tailored immunotherapy for paediatric SIRS patients (TIPS) coordinated by Prof. Catharina Schütz from Technic University Dresden.
Methods: A sample of 10 experts with different backgrounds was studied through semi-structured interviews. Systematic literature review grounded the interview questionnaire. The transcripts were subjected to thematic analysis by two independent researchers.
Results: Five classical research ethics issues were identified: respect for autonomy; informed consent; risk-benefits ratio; data protection; social justice. All experts favoured the empowerment of children ($N = 10$) and obtainment of informed consent rather than assent was seen as a common goal ($N = 5$). The emergency context of SIRS research impeded the informed consent. Despite favourable risk-benefits ratio, no direct benefits resulted to study participants. Data anonymisation though necessary ($N = 10$), hinders proper dealing with incidental findings. Social justice issues apparently accompanied research design in personalised medicine ($N = 2$) but should not extend to access to personalised therapy.
Conclusions: The classical framework of research ethics is challenged by the new fields of medical research. Traditional concepts, such as informed consent in minors, are subject to rethinking. Current ethical and legal guidelines fall short of proper practical instructions in the specific case of SIRS pediatric patients. Thus, ethical aspects of new technology development should always be studied in parallel to the biometrics within personalised medicine projects so as to the development of guidelines is more evidence-based than precautionary driven.

Key messages:

- Current ethical and legal guidelines fall short of proper practical instructions in the specific case of SIRS pediatric patients.
- Ethical aspects of new technology development should always be studied within personalised medicine projects so as to the development of guidelines is more evidence-based than precautionary driven.

Abstract citation ID: ckae144.084
Issues of social justice in the development of personalised therapy for paediatric SIRS patients

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Background: Systemic Inflammatory Response Syndrome (SIRS) is an often-emergent condition, which lacks specific diagnostic tools. Personalised therapy could fill this gap but as every new technology, it raises issues of social justice. Our report aims at identification and analysis of social justice implications within the bigger ERA PerMed funded project of development of tailored immunotherapy for paediatric SIRS patients (TIPS) coordinated by Prof. Catharina Schütz from Technic University Dresden.
Methods: Qualitative research methodology thought 10 semi-structured interviews. Systematic literature review grounded the interview questionnaire. Transcripts were subjected to thematic analysis by two independent researchers.
Results: Social justice was seen as equal chances of inclusion of different population groups in research. Socioeconomic differences were perceived as a challenge to ensure justice across various populations ($N = 7$). Two interviewees saw discrimination as inherent to precision medicine, which is focused on personalised treatment. Two experts viewed the exclusion of specific patients' groups as an unsolvable problem, that only advocates for the inclusion of as many patients as possible. On the opinion of six experts individual and ethnocultural factors may influence outcomes in personalised treatment, especially considering the small sample size and the diverse populations. One medical expert, on the contrary, perceived no significant challenges associated with the heterogeneity of patients. Whether socioeconomic injustices should be addressed by guidelines and how these correspond to the rights of the patient were further discussed.
Conclusions: The issues of social justice accompany research in personalised medicine, including SIRS. In general, there is sensitivity to this issue, but current guidelines are too vague. As with other ethical problems, so with social justice we seem to have a rethinking of the concept, that needs further study.

Key messages:

- In the context of SIRS personalised therapy research, there is a sensitivity to the issue of social justice, but no consensus how to ensure it.
- Issues of social justice are often boiled down to equal chances of inclusion in research and equal access to treatment. In the case of personalised therapy, there seems to be more to it.

2.E. Round table: Building climate resilient health systems in the EU

Abstract citation ID: ckae144.085

Organised by: Ecorys, EUPHA-PHPP, -ENV
Chair persons: Rana Orhan Pees (Netherlands), Lisbeth Hall (Netherlands)
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Climate change is one of the biggest challenges for modern society. The health effects of climate change lead to negative impacts on European health systems, and conversely, European health systems contribute significantly to climate change. To overcome challenges posed by the climate crisis, European cooperation is essential. The interdependencies between climate change and public health and its broader impact underline the importance of resilience in European health systems, calling for concrete actions from both EU institutions and national governments. Additionally, the topic of resilient health systems currently ranks high on the European agenda, with the Belgian Presidency promoting health care strengthening as one of its six priorities. The European Commission will also continue its work on this issue for the next five years. The EU has already taken steps in this matter, such as the launch of the European Health Union and the adoption of the EU4Health Programme. However, in order to better prepare for climate resilient health systems, the EU must further develop in this regard. To explore this pressing issue, the round table discussion will focus on how EU actions in climate adaptation can synergistically contribute to the resilience of health systems. Resilience, often associated with adaptation, embodies the capacity to anticipate, withstand, and recover from shocks and stresses related to climate change. By delving into this question, the workshop seeks to uncover ways in which EU and Member State climate initiatives can reinforce health system resilience, thereby fostering a more adaptive and responsive health workforce and infrastructure. Featuring 4 panellists from Erasmus University Rotterdam, the Austrian National Public Health Institute, the Dutch Green Healthcare Alliance and the European Environment Agency, the round table will bring together diverse perspectives on this issue. The added value of the round table is laying out possible ways of how both the EU and Member States can contribute to enhancing the resilience of European health systems. After establishing the necessity for action, the round table discussion will focus on generating ideas to address climate change. Specifically, this discussion will cover examples of national policies, such as from the Netherlands, Austria, and other Member States. Also discussed will be the importance of monitoring and surveillance, and conducting a health and vulnerability assessment. This ensures better understanding of the relevant current and future health impacts, which will inform resilience measures. This will be followed by a discussion with the audience to formulate recommendations for improving the resilience of EU health systems for the next five years.

Key messages:

- Climate change challenges European health systems, emphasising the need for European cooperation in resilience efforts.
- Synergising climate adaptation with health system strengthening enhances EU’s capacity for resilience.

Speakers/Panelists:

Chiara Cadeddu
Erasmus University Rotterdam, Rotterdam, Netherlands
Aleksandra Kazmierczak
European Environment Agency, Copenhagen, Denmark
Andrea Schmidt
Austrian Public Health Institute, Vienna, Austria
Juliette Mattijsen
Groene Zorg Alliantie, Rotterdam, Netherlands

2.F. Scientific session: Challenges in healthcare architectures

Abstract citation ID: ckae144.086

Organised by: EUPHA-URB, -PMH, -ENV
Chair persons: Stefano Capolongo (EUPHA-URB), Jutta Lindert (EUPHA-PMH)
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The Workshop titled “Challenges in healthcare architectures” - proposed and developed by the three EUPHA Section: Urban Public Health (URB), Public Mental Health (MEN) and Environmental Health (ENV) - is aimed to foster the dialogue between designers (architects and urban planners), Public Health experts (operators, professionals and epidemiologists), general/sanitary Directors of healthcare facilities and medical staff, to establish a multidisciplinary approach for understanding together how to create and manage the healthcare facilities of the future. According to the main Conference topic “Sailing the waves of European public health: exploring a sea of innovation”, the workshop mainly addresses both the “Health care services and systems” and the “Health workforce, practice and training” EPH24 conference topics. The Workshops purpose is to explore the concept for the hospital of the future, that should be resilient to changes and capable of protecting different users’ health and tackle the transforming social, economic, environmental and epidemiological needs of the context in which they are located. As in many other spheres and economic activities, the pandemic accelerated the processes of innovation and digitization that had somehow already been activated. The healthcare issue, the use of smart devices for a dialogue between the healthcare professionals and the pervasive use of apps to monitor certain health parameters, are just some of the megatrends that were being observed and which have now necessarily entered into everyday life. In the same way, the hospital, which in the face of this gradual process of dematerialization and relocation of ‘softer’ clinical-diagnostic activities, reaffirms itself as a center of the highest specialty for the treatment and care of acute patients, for high-level clinical and experimental re-search, for diagnostics and more complex operations. At the same time, and finally, the hospital is inserted in a territorial healthcare facilities network, that should be planned, designed, and managed. The workshop program includes inputs which they argue current experiences, emerging practices and scientific outcomes related to the hospital design, planning and management sphere, coming from four different European countries. From designing to managing practices, in “Hospital Design and planning in the line of Foresight of Health Needs” and in “Sustainability in the Next Generation Hospital”. From digitalization in national resilience experiences, in “Digital

Health Spaces in the City of Lisbon. The Role of Digitalization in linking Boundaryless Hospitals and Smart Health Cities" to novel approaches for specific disease, in "Building bridges: mobile mental health care units in four European countries".

Key messages:

- Explore the "hospital of the future" concept, resilient to changes, capable of protecting users' health, and to tackle the transforming social, economic, environmental and epidemiological needs.
- Establish a multidisciplinary and territorial approach, for understanding together how to create and manage the healthcare network of the future.

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Hospital design and planning in the line of foresight of health needs

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The health needs of the population are increasingly difficult to plan and predict. Technological progress, artificial intelligence, new medicines, but also ecological disasters, humanitarian crises, energy crisis and other challenges (as a Covid 19 pandemic) represent the image of our time. New design of hospitals should be able to respond to the challenges of the future: comprehensive provision of health services taking into account the patient's needs, working conditions taking into account the hospital staff, energy efficiency and construction in accordance with high standards and reduction of CO2 emissions (green hospitals), to ensure alternative sources of electricity and water supply bearing in mind potential emergencies. The big challenge of long-term construction in which advanced technologies and new procedures cannot simply fit into a rigid building structure that is several decades old (example Serbia), so it is necessary to apply precise planning and efficient and high-quality construction in the next generation hospitals, taking into account current modern equipment and that which will appear in the future. Designing hospitals involves anticipating future healthcare challenges, technological advancements, demographic shifts, and changes in patient expectations. Hospitals emphasis on patient-centered design principles, creating environments that prioritize comfort, privacy, and dignity for patients and their families, accessibility and inclusivity, infection control and prevention, sustainability and resilience. Modern hospitals should create collaborative spaces for interdisciplinary teamwork and communication among healthcare providers, research and innovation units, but also community engagement and health promotion activities. Future hospital design requires strong multidisciplinary and cross-sectional cooperation, in which priority is given to architects dedicated to this field and their cooperation with public health and health management experts.

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Sustainability in the Next Generation Hospital. Needs and Requirements collection from healthcare infrastructures supply chain stakeholders with One Health approach

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Technological, demographic, epidemiological, environmental and social changes require investment in new sustainable hospital infrastructure; there is a lack of guidelines and interaction between Stakeholders. In February 2022, the Joint Research Platform Healthcare Infrastructures (JRP HI) was established consisting of Hospital Strategic Directions and Industrial Partners in Italy. Starting from the WHO Techincal Brief "Hospitals of the Future", a national survey was carried out via web-survey and semi-structured interviews with a sample of 30 stakeholders to collect the main drivers and constraints for innovation and the framework from a One Health perspective and in terms of sustainability. The main needs to be addressed through the guidelines refer to digitalization (27%), flexibility (32%), environmental sustainability (36%) and economic sustainability (27%) as well as flow management (18%) and hospital infection (14%). The participants consider SDG-3 'Good Health and Wellbeing' to be the most relevant for development activities. Hospital managers prioritize SDG-8 'Decent Work and Economic Growth' (23%); vice-versa the industrial partners suggest SDG-11 'Sustainable Cities and Communities' and SDG- 13 'Climate Actions' (32%) as topics to be addressed. Furthermore, 57% of the respondents state that they lack adequate training, budget or leadership to apply innovative strategies in the day-to-day management of the healthcare organization. The survey highlighted a lack of initiatives, budget, and standardization for enhancing environmental sustainability in healthcare infrastructures. The sustainability of building systems depends on factors such as energy consumption, alternative energy sources, thermal comfort, water usage, waste management, ventilation, lighting efficiency, air quality, and construction materials. Ensuring the adoption of monitoring systems and harmonized standards of performance measurement is crucial for increasing the environmental sustainability.

Abstract citation ID: ckae144.089
Digital health spaces in the city of Lisbon. The role of digitalization in linking boundaryless hospitals and smart health cities

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Digital transformation is reshaping every aspect of society, including healthcare. The concepts of 'Boundaryless Hospitals' (BH) and 'Smart Health Cities' (SHC) represent a forward-thinking approach to healthcare that leverages digital technologies to enhance service delivery, operational efficiency and patient outcomes, including healthy mobility. This session delves into the complex role of digitalization in creating interconnected health and spatial environments where the flow of data and resources across physical and virtual barriers is optimized. BH embody a healthcare model where digital tools, health information systems and AI-powered diagnostics are integrated to provide care that transcends traditional hospital walls into the city. This approach not only facilitates greater accessibility and flexibility in patient care but also enhances the capacity for healthcare providers to offer personalized and timely interventions, embracing public health altogether. SHC integrates health technology into urban planning and public health services to create ecosystems that actively contribute to the health and wellbeing of their populations. Using big data analytics, IoT and other digital infrastructures, these cities support sustainable health practices, disease prevention, and efficient crisis response, promoting an overall healthier populace. This session will explore how digital health spaces can bridge the gap between these concepts. Discussions will focus on public health challenges and opportunities, examining the case of the city of Lisbon on how digital platforms can facilitate interactions between healthcare providers, patients, and urban environments. Best practices from pioneering projects around the globe will be highlighted. Participants will engage in comprehensive analyses of Lisbon case that demonstrate successful integration of digital health technologies in various contexts, contributing to the resilience and adaptability of healthcare infrastructures.

Abstract citation ID: ckae144.090
Building bridges: mobile mental health care units in four European countries

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Background: Individuals living in rural and remote areas may have limited access to mental healthcare due to lack of facilities, socioeconomic reasons, stigma and lack of mental health literacy. To meet the needs and provide needs-based care care mobile mental health care clinics were established in some countries in Europe, including in Belgium, Germany, Greece and in Moldowa. A mobile clinic is a customized motor vehicle that travels to communities to provide mental health care. The mobile clinics are an integral part of the health care system and help ensure access to mental care.
Aims: To describe mobile care clinics in two countries in Europe using a case study design.
Results: Mobile clinics deliver a wide variety of mental health services, are heterogeneous and consist of multidisciplinary teams, including physicians, social workers, and other health professionals. The organization and financing of the Mobile mental health clinics is different in the four countries (e.g. part of the mental health care system in Belgium, and Moldova, part of initiatives in Germany and Greece). Due to data protection no detailed data on patients can be provided at the moment. The structures on mental health care mobile clinics in the four countries will be described in detail in the talk.
Discussion: Mobile clinics often serve as a bridge between communities and the mental health care system. Another important issue in rural areas is the ongoing aging of the population. The number of Elderly patients is expected to rise in the future. The care of those patients is challenging for the mental health and the primary care system. There is a necessity for establishing bridges between mobile clinics and hospital care.

2.G. Practice session: Africa and Europe: peer-to-peer HIS assessments for NCD, mental health and injuries surveillance

Abstract citation ID: ckae144.091

Organised by: Robert Koch Institute (Germany), Africa Centres for Disease Control and Prevention, WHO/Europe
Chair persons: Angela Fehr (Germany), Marieke Verschuuren (EUPHA)
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Public health surveillance is the basis for evidence-informed decision-making and health (systems) research, globally. Without robust data, public health challenges cannot be tackled. NCDs, mental health conditions and injuries (NCDI/MH) are among the biggest global public health challenges. Their risk and protective factors, including social, political and commercial determinants of health, transcend borders and require multi-disciplinary, multi-stakeholder and long-term responses. Since 2006, comparable national data on NCDI/MH are being collected in Europe on the basis of European Core Health Indicators (ECHI) and the European Health Interview Survey (EHIS). Currently, EU and WHO EURO are working together to set up a new Health Information Network. At EU level, a sustainable health information infrastructure is still lacking, despite extensive preparations in EU-funded projects. Part of these project activities were health information system (HIS) assessments, applying the WHO EURO Support tool to strengthen health information systems for peer-to-peer assessments. In the African region, the Africa Centres for Disease Control and Prevention (Africa CDC), founded in 2017, made NCDI/MH prevention and control a strategic priority. In 2021, it launched its first continental NCDs, Injuries Prevention and Control and Mental Health Promotion Strategy (2022-26) under which the organization supports its Member States. At the 3rd International Conference on Public Health in Africa (Zambia, Nov. 2023), Africa CDC presented a continental Guidance to strengthen NCDI/MH surveillance. The Guidance was developed in collaboration with Robert Koch Institute (RKI) and is based on desk reviews, surveys and national HIS assessments. Both Europe and Africa performed HIS assessments to strengthen NCDI/MH surveillance; standardized tools from WHO EURO and from the International Association of National Public Health Institutes (IANPHI) were used and adapted to fit peer-to-peer approaches and regional contexts. This workshop will present and discuss methodological approaches, experiences and lessons learned, thereby initiating knowledge exchange across continents. The presentations will address the following points:
- From top-down to peer-to-peer: methods & tools used in HIS assessments
- From paper to practice: the importance of site visits in HIS assessments
- From educated guesses to evidence: outcomes of HIS assessments at country level
- From evidence to action: translation of HIS assessment outcomes into HIS improvements
- From pilot to scale-up: challenges, lessons learned, sustainability of HIS developments

To our knowledge, this workshop is the first one at the EPH to bring together practitioners in HIS strengthening for NCDI/MH from Africa and Europe. The workshop offers a unique opportunity to engage with the audience and to explore options for international collaboration.
Key messages:
- Interregional collaboration helps reduce health information inequalities, facilitating better global management of high burden health challenges, such as NCDs, mental health conditions and injuries.
- Peer-to-peer HIS assessments in Africa and Europe strengthen NCDI/MH surveillance. They build evidence for policy advice, research and health education and add the benefit of forging expert networks.

Abstract citation ID: ckae144.092

The Africa CDC Guidance for Strengthening NCDI-MH Surveillance Systems: The role of HIS assessments

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Deaths due to NCDs, injuries and mental health conditions are expected to at least triple by 2063 in the region of the African Union. Population-based data for NCDI/MH and their determinants remain scarce in many AU MS; therefore, NCDI/MH surveillance is a flagship initiative in the Africa CDC NCDI/MH Strategy. In a survey conducted by Africa CDC and RKI in 2022 on the impact of COVID-19 on NCDI/MH in 10 AU MS, countries signaled the need for a continental guidance document. In 2023, Africa CDC and RKI performed desk reviews and facilitated peer-to-peer multi-country HIS assessment workshops, based on modified WHO and IANPHI tools. The first workshop took place in Zambia with experts from Botswana, Democratic Republic of Congo/DRC, Kenya and Zambia. The second workshop was hosted in Ghana and included DRC, Ghana, Morocco, Nigeria, Senegal and Sierra Leone. Participants came i.a. from ministries of health, national public health institutes or academia. The process included a virtual introductory meeting as well as half-day training sessions at the physical meeting for participants to familiarize themselves with the tools. Peer-to-peer assessment sessions took place on days 2 and 3. Day 4 was reserved for site visits to (public) health institutions of the hosting countries. On day 5, participants presented their findings to the plenary, which included high-level representations from host countries. The combined results from the survey, desk reviews and workshops informed the development of the continental Africa CDC Guidance for strengthening surveillance for NCDI/MH, launched at the 3rd Conference on Public Health in Africa. In four chapters, the Guidance covers recommendations on indicators, data sources and data types; surveillance system capacities; surveillance integration with existing systems; and data use. Implementation of the Guidance, including development of core health indicators, has been initiated by Africa CDC in 2024.

Abstract citation ID: ckae144.093

Health information system assessments: Opportunities for international collaboration

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Since the late 1990s, with the development of European Core Health Indicators (ECHI) and the European Health Interview Survey (EHIS), the EU aims to strengthen its continental database for evidence-informed public health policy and research. BRIDGE Health (2015-2017), InfAct (Information for Action 2018-2021) and PHIRI (Population Health Information Research Infrastructure 2020-2023) projects prepared for the establishment of a sustainable European health information infrastructure. Country health information system (HIS) assessments were core project activities, performed on the basis of the WHO Euro ‘Support Tool to strengthen health information systems’. To serve project objectives, the original top-down Support Tool was modified and implemented in a peer-to-peer approach among project countries. InfAct and PHIRI conducted 9 country peer-assessments each. InfAct assessments were carried out through country visits, targeting overall health information inequalities and good practices. PHIRI performed virtual country visits, focusing on COVID-19 health information flows. The WHO Tool was further adapted by the Joint Action TEHDAS (2021-2023) to assess the readiness of HIS in Europe for the European Health Data Space. Experience with these different iterations led to the revision of the Support Tool in 2021 to include a more expanded and modular approach which enables HIS assessments to opt to focus on specific aspects. To date, a sustainable European health information infrastructure has not been set up. Currently, the EU funds a joint Health Information Network with WHO Euro. Building regional infrastructures for public health and NCDI/MH monitoring and reporting depend on structures and on the political will of supranational organizations and their members. Meanwhile, HIS assessments to improve surveillance, population health and to reduce health information inequalities lend themselves to increased international collaboration and knowledge exchange.

2.H. Round table: Health system description and comparison: lessons from the WHO/Observatory Insights series

Abstract citation ID: ckae144.094

Organised by: WHO/Europe, European Observatory on Health Systems and Policies
Chair persons: Bernd Rechel (European Observatory), Natasha Azzopardi Muscat (WHO/Europe)
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The European Observatory on Health Systems and Policies has been working for more than 25 years on the systematic description, analysis and comparison of health systems in Europe. This workshop explores experiences so far with a new series of health system profiles, the Health Systems in Action (HSiA) Insights, launched in 2021 in collaboration with the WHO Regional Office for Europe. The first round of the Insights in 2021 was a pilot series, covering just five countries (Georgia, Kyrgyzstan, North Macedonia, Ukraine, and Uzbekistan). Since then, the series has grown to 13 countries in 2022 and in 2024 is covering almost all WHO Member States that are outside of the European Union (EU). The Insights aim to provide short and easily accessible documents that provide core information on a country’s health system, its key strengths and challenges, how it compares to other health systems in Europe, and how it impacts on the health of its population. This roundtable provides a platform for sharing experiences with devising, writing and using the series so far, bringing in country and comparative perspectives and involving the audience. The objectives of the roundtable are to a) identify best practices for the comparative description and analysis of health systems in the form of a series of country profiles; b) explore the challenges of drawing up country profiles where comparative data are lacking, incomplete or politicized; c) identify ways of disseminating and using country profiles; d) establish an opportunity for cross-country learning and skills development for the writing of health system descriptions and analyses. The roundtable will consist of four speakers. It will start with three very brief country presentations on the Insights for Israel, North Macedonia and Kazakhstan, followed by a brief comparative perspective on how to capture, compare and analyse health workforce trends across a broad set of countries, which is the Spotlight section of the 2024 round of Insights. This will be followed by a broad discussion with audience interventions to bring in the experience of other experts and countries. The moderated discussion will emphasise key learning points on how to devise a comparative series, how to write health system profiles and how best to use them to inform health policy-making.

Key messages:

- The regular monitoring of health systems and policies is challenging, but essential for improving them.
- Health system summaries require systematised approaches and up-to-date comparative data.

Speakers/Panelists:
Ruth Waitzberg
Technische Universitat Berlin, Berlin, Germany
Yerbol Spatayev
WHO Country Office Kazakhstan, Astana, Kazakhstan
Simona Atanasova
WHO Country Office North Macedonia, Skopje, Republic of North Macedonia
Tomas Zapata
WHO/Europe, Copenhagen, Denmark

2.I. Scientific session: Addressing vaccine hesitancy: from understanding determinants to implementing targeted strategies

Abstract citation ID: ckae144.095

Organised by: School of Public Health University of Pavia (Italy), EUPHA-IDC, -DH
Chair persons: Anna Odone (EUPHA-DH -IDC), Roberta Siliquini (Italy)
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Supported by NextGenerationEU (no. PE00000007) and EU4Health (VAXaction), the workshop will present a pan-European perspective on vaccine hesitancy and the effectiveness of counteracting interventions, especially when facing potentially pandemic infectious threats. Analysing human responses to epidemics is crucial to improve mathematical disease modelling and develop strategies to monitor behaviours during outbreaks, including assessing levels of vaccine hesitancy. This session will explore the multifaceted issue of vaccine hesitancy, which remains a significant barrier to achieving optimal vaccination coverage and is identified as one of the top threats to global health. By integrating theoretical frameworks with practical applications, the workshop aims to present a comprehensive overview of strategies employed to mitigate hesitancy across various demographics and regions. The first presentation will cover a thorough overview of the strategies employed to counteract vaccine hesitancy, leveraging existing infrastructure, health promotion policies, and educational initiatives. It will also explore the role of digital health tools and regulatory measures, such as health passes and nudging techniques, in enhancing vaccination uptake. Furthermore, the session will cover a systematic review of immunisation information systems (IISs) and the proposal of an innovative unvaccinated registry. This part of the workshop will delve into technological advancements and the integration of behavioural insights, which are essential for enhancing vaccine coverage and informing public health strategies. Another significant aspect of the discussion will be the evolution of vaccine mandates, from their historical roots to their contemporary applications. This discussion will reflect on policy shifts necessitated by emerging public health challenges and the need for adaptable strategies that can respond effectively to fluctuating vaccine coverage and acceptance rates. Panel discussions will feature notable experts such as Prof. Carlo Signorelli, President of the Italian NITAG, and Prof. Maria Ganczak, Vice President of the EUPHA Infectious Diseases Control section. These discussions will provide a comparative analysis of vaccination policies across different European countries, highlighting diverse approaches to mandates and the implementation of public health interventions aimed at combating vaccine hesitancy. By providing a unified approach to understanding and combating vaccine hesitancy, we aim to facilitate a critical exchange of ideas and strategies among experts in the field. It will serve as a dynamic platform for discussing evidence-based interventions tailored to specific population needs, enhancing public health outcomes across Europe. This engaging session promises to offer valuable insights into the complexities of vaccine hesitancy and the collaborative efforts required to address this global health challenge effectively.

Key messages:

- Enhanced data collection and analysis are essential to combat vaccine hesitancy, allowing for tailored interventions that address specific community needs and barriers to vaccination.
- Effective strategies against vaccine hesitancy require historical understanding and flexibility to adapt to new challenges, ensuring public health policies are responsive and culturally sensitive.

Abstract citation ID: ckae144.096

The EU project VAXaction: tacking effectively vaccine hesitancy in Europe

Flavia Pennisi

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The main objective of VAX-ACTION is to support EU Member States and relevant stakeholders to implement the results of tailored, evidence-based interventions aimed to reduce vaccine hesitancy. Based on the evaluation of effectiveness of these interventions, which will be conducted in selected target regions in EU member states, recommendations will be drawn through diverse dissemination strategies to allow scaling up good practices to other member States, but also to the USA and Canada, where gaps in implementation strategies also have prevented effective, evidence-based interventions aimed to better deal with vaccine hesitancy.

The first phase of the research involved some relevant systematic reviews with the aim of:

1. to map public health evidence and research results on large-scale vaccination programs in Europe and north America;
2. to map interventions aimed to address vaccine hesitancy regarding new and well-stablished vaccines and vaccination programs (Covid-19, mpox, national immunizations programs for children) in Europe and north America;
3. to identify successful and unsuccessful interventions designs aimed to address vaccine hesitancy, including challenges in the implementation, evaluation designs, and the feasibility of scaling-up solutions that are context-sensitive;
4. to identify significant similarities or dissimilarities in the designs and outcomes of interventions aimed to address vaccine hesitancy in northern countries where political and academic concern towards this phenomenon is growing;
5. to identify the extent to which ‘grounding’ (bottom-up) experiences aimed to address vaccine hesitancy are evidence-based, build on current international knowledge and guidelines, and whether they are internationally reported;
6. to systematize the mapping of interventions aimed to address vaccine hesitancy in the northern hemisphere in a way that can be shared and used by third parties.

This contribution will illustrate the results of the first phase of the project.

Abstract citation ID: ckae144.097

Advancing immunisation information systems: a proposal for the “unvaccinated registry”

Elena Maggioni

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Through a systematic review of 253 studies, we identified significant advancements in IIS functionalities including real-time data access, interoperability, and life-course vaccination records, crucial for robust public health responses. Our review reveals that vaccinations are vital for public health and societal welfare; however, vaccine hesitancy is a significant barrier, driven by complex factors. Most IIS implementations predominantly utilise web-based platforms focused on children’s vaccinations with features that enhance data interoperability and public health surveillance. Despite these advancements, gaps in vaccine coverage and hesitancy mapping persist due to suboptimal data integration and system interoperability. Parallelly, we propose a comprehensive registry that includes unvaccinated individuals, aiming to address vaccine hesitancy by integrating demographic and socio-economic data. This initiative promises to enhance health equity by providing actionable insights into vaccination gaps and facilitating targeted interventions. Ethical considerations, particularly data privacy, are paramount, as well as adhering to regulations such as GDPR to ensure the protection of personal health information. The integration of IIS with a registry that includes unvaccinated populations represents a transformative approach to public health, potentially increasing vaccine coverage and effectively informing policy decisions. This dual strategy leverages not only technological advancements but also incorporates essential behavioural insights, offering a path forward in the ongoing battle against vaccine-preventable diseases. This model aligns with the Italian National Vaccination Prevention Plan and underscores proactive, evidence-based strategies to enhance vaccination uptake, serving as a cornerstone for broader application in other national contexts.

Abstract citation ID: ckae144.098

The evolution of vaccine mandates: from historical perspectives to contemporary applications

Giacomo Pietro Vigezzi

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Luigi Sacco pioneered efforts in 19th-century Italian vaccination campaigns when mandatory vaccination practices began as a public health strategy. We bridge past and present through a systematic review of both historical and contemporary vaccine mandate policies. While Sacco’s early initiatives, characterised by compulsory vaccination and effective communication strategies, set foundational principles for vaccine mandates, the modern era, especially during the COVID-19 pandemic, has seen a significant shift in the nature and application of vaccine mandates. Recent legislative changes across various countries have introduced stricter mandates aimed at managing public health crises. For instance, Italy and France, deeply impacted by reduced vaccine uptake and subsequent measles outbreaks, responded by reinforcing vaccine mandates. These countries aimed to mitigate the dual challenges of achieving high vaccination coverage and combating growing vaccine hesitancy. Comparative analysis of recent legislative changes reveals a trend towards increasing coerciveness in vaccine mandates, reflecting a blend of functional and political pressures driving government decisions. This trend is evident in the legislative adjustments made in California, Australia, France, and Italy, where heightened penalties and reduced exemptions were introduced to counteract declining public compliance. The synthesis of these experiences highlights the critical role of robust, credible communication and the nuanced application of mandates that consider societal and cultural contexts. Contemporary strategies are characterised by targeted interventions aimed at specific populations, reflecting the complex interplay of social, political, and health dynamics in vaccine policy. The enduring relevance of vaccine mandates underscores the necessity of flexible, responsive public health strategies that effectively address both long-standing and emergent vaccine hesitancy and coverage challenges.

Speakers/Panelists:
Carlo Signorelli
HSR, Milan, Italy
Maria Gańczak
Department of Infectious Diseases, University of Zielona Góra, Zielona Góra, Poland

2.K. Scientific session: Promoting organizational health literacy in healthcare organizations and beyond in Europe

Abstract citation ID: ckae144.099

Organised by: Austrian National Public Health Institute (Austria), Aarhus University (Denmark), Steno Diabetes Center Sjaelland (Denmark), EUPHA-HL, -HCW, WHO/Europe
Chair persons: Diane Levin-Zamir (Israel), Christa Straßmayr (Austria)
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Organizational health literacy (OHL) has been defined as the degree to which healthcare organizations equitably enable/empower people, through organizational structures, policies, and processes, to find, understand, appraise, and use information and services to make health-related decisions and actions for themselves and others. By adopting an OHL approach, healthcare organizations enhance health service delivery by simplifying interaction with health systems by making information and services more comprehensible. An OHL approach not only reduces health literacy demands of patients, but also of workforce and the resident population of the community that they serve. The workshop focuses on two theory-based initiatives that focus at promoting OHL in Europe: (1) the Organizational Health Literacy for All (OHL-ALL) initiative, which developed a practice-oriented OHL approach for organizations promoting equity explicitly to support people in vulnerable positions with or at risk for diabetes or other non-communicable diseases, and (2) the World Health Organization (WHO) Action Network on Measuring Population and Organizational Health Literacy (M-POHL) which aims at initiating and facilitating the (self-) assessment of OHL in healthcare organization by developing, providing, and disseminating OHL assessment tools. Both initiatives strive to support organizational change and workforce responsiveness. While the first initiative goes beyond health literacy responsiveness of healthcare organizations intending to offer guidance for organizations on how to give all individuals the best possible opportunities to achieve their optimal health and well-being, the second initiative specifically focuses on OHL in healthcare organizations using a settings approach with a focus on health care, prevention, and health promotion. The initiatives enrich and complement each other. The workshop consists of five short presentations, followed by a discussion among the presenters and the audience. The first presentation focuses on the development of the theory-informed and coherent OHL approach of the OHL-ALL initiative. The second presentation provides an overview of the M-POHL initiative and its innovative tools. Then three presentations will showcase results, experiences, and outcomes from European countries on assessing OHL in different healthcare settings. Expected impact: Theory-based guidance for implementing organizational development will be provided. Results from the M-POHL initiative will contribute to greatly needed insights into OHL needs and opportunities of healthcare organizations. The insights from these real-world assessments and implementation can inform future public health practice, policy, and research.

Key messages:

- An OHL approach contributes to better equity. It helps meet health literacy needs of patients, health and care workforce and the resident population of the community that are served.
- New tools have been developed to support management and health and care workforce in assessing and improving OHL responsiveness, to better serve patient communities.

Abstract citation ID: ckae144.100

OHL-ALL: a theory-informed and practice-orientated organizational health literacy equity approach

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Background: The OHL-ALL initiative was launched by Steno Diabetes Center Sjaelland and the Department of Public Health, Aarhus University and the OHL-ALL scientific group in cooperation with EUPHA-HL and M-POHL in November 2023. The OHL-ALL (Organizational Health Literacy for All) approach offers an opportunity to rethink and develop organizational health literacy (OHL) with an explicit normative basis for equity. The goal is to establish a theory-informed, practice-oriented, multifaceted, and implementable approach. In the OHL-ALL approach, we define equity as the normative anchor, and we suggest using the Capabilities Approach to embed improved equity in design, implementation, and evaluation of interventions.

Methods: The process of developing the OHL-ALL was guided by applying core ideas from Amartya Sen's Capability Approach. Five intervention principles were derived from the existing organizational health literacy literature: organizational change, workforce responsiveness, user involvement and person-centered care, access and navigation and internal and external partnerships. After an international expert working group meeting in November 2023, we formed four work packages.

Results: At the EPH conference, a status of the progress in the four work packages will be presented:

WP1. OHL-ALL Framework development based on capability, fairness, and equity.

WP2. Initiatives and testing of the OHL-ALL framework.

WP3. Evaluation of OHL-ALL (i) the capability approach and (ii) outcome domains.

WP4. Plans for the future, including advocacy and outreach - ideally via a conference in 2026.

Conclusions: The OHL-ALL project presents a novel approach to advancing equity in health by improving users' capabilities. Based on an explicit normative framework it is expected to offer theoretical and practical guidance for organizations that chose to implement a health literacy approach.

Abstract citation ID: ckae144.101

Organizational health literacy in hospitals and primary health care - developing innovative tools

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Background: Organizational health literacy (OHL), particularly in health systems, is vital for supporting public health. Self-assessment tools (SAT), critical for quality assessment/improvement and for empowering relevant stakeholders, could support hospitals and primary healthcare services to promote their role in health literacy responsiveness, and support organizations in identifying strengths and areas of improvement.

Methods: The SAT for OHL in hospitals (OHL-Hos) and in primary healthcare (OHL-PHC) were developed via a participatory process, based on the "Vienna Concept of a Health Literate Healthcare Organization". Piloting of the tools in European countries shed light on the tools' depth and the need for revision. The development of short versions followed a Delphi process with experts from ten to thirteen European countries, respectively, from December 2023 - April 2024. Healthcare service diversity within and between countries was taken into consideration as well as cultural/language adaptation. Shortening OHL-Hos followed four steps: 1) prioritization of the most relevant indicators, 2) considering additional resources, 3) consensus process, 4) refinement of the tool and wording.

Results: The SATs for both healthcare settings are now established. The SAT for OHL-Hos includes a matrix model of eight standards, 21 sub-standards and 75 indicators. The SAT for OHL-PHC includes seven standards, 19 sub-standards and 69 indicators, covering OHL in organizational structures and processes for staff, patients and the community served with specific focus on navigation, communication, and participation. Both SATs are accompanied by a guide to direct organizations through in the self-assessment process.

Conclusions: The process of identifying OHL needs and opportunities in the health system, facilitated by participatory methods for tool development, led to innovative SATs for OHL which are currently ready for piloting and implementation in European countries.

Abstract citation ID: ckae144.102
Organizational health literacy strength and learning opportunities in Italian hospitals

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Background: Organizational Health Literacy (OHL) implies responsiveness and friendliness of healthcare organizations. In the context of the WHO Action Network M-POHL, Italy evaluated OHL in a hospital as a pilot.

Methods: The international self-assessment tool OHL-Hos explores 8 standards using 141 items. It was firstly translated and culturally adapted to Italy, and then tested to assess OHL in the public general hospital of Pistoia (Central Italy). A physician, 6 staff members of the healthcare management unit, and 3 medical residents in public health from the Florence University were involved in the pilot. The Pistoia hospital has 1,300 employees (44% nurses, 24% physicians) to face 18,000 hospitalizations per year.

Results: Completing the questionnaire took more than 5 hours. A comprehensive agreement was reached, even though different approaches aiming at improving HL in healthcare and non-healthcare staff emerged. Scores resulted acceptable/good for standard 5 (communication with patients) and 7 (promoting staff HL with regard to occupational risks and personal lifestyles), low for standards 1 (implementing OHL overall the hospital), 2 (involving stakeholders in developing documents, materials, services), 3 (staff training for personal and organizational HL) and 8 (contributing to local population personal HL improvement), which would apply more peculiar for other settings than hospitals.

Conclusions: The participation of the hospital working group in the assessment using the OHL-Hos raised interest toward this matter. It results time consuming for its excessive length, and some standards do not fit to the Italian hospital context, resulting more useful to assess the territorial organization. Reduction of the number of items and revision/reformulation of some of them are suggested. Nonetheless, the tool proved to be useful in indicating the most critical areas needing ad hoc interventions, such as training all the hospital staff.

Abstract citation ID: ckae144.103
An action plan to improve organizational health literacy in hospitals in the Czech Republic

Alena Šteflová

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Background: The National Institute for Health Literacy conducted in 2023 as part of the M-POHL network and in close collaboration with the team of the Klaudian Hospital a survey on the level of organizational health literacy using the OHL-Hos tool. The OHL-Hos tool was proven by the project implementation team as suitable for initiating and monitoring organizational change.

Methods: Based on the self-assessment and the results of the consensus workshop, the project implementation team identified development priorities that were submitted and approved by the hospital management. To keep the sustainability of the implementation, the hospital management decided to formulate an action plan, with the time horizon 2025.

Results: The proposed action plan, approved by hospital management, focuses on feasible measures within a given time horizon. For each development goal, responsible teams, time frames, and expected results were formulated. The implementation project team evaluated as the most innovative standard the standard dealing with internal communication with patients and their family after discharge and thus to ensure the continuity in supporting personal health literacy of patients and relatives. In addition, as further important standards, easy navigation and access to documents, materials, and services for patients and healthcare professionals were recognized. Interventions focusing on public education, especially for children and students of all school levels, have been proposed to enhance external communication and increase health knowledge in the region.

Conclusions: The process of regular OHL assessment of set up measures has been considered as a way how to ensure the long-term fulfilment of the newly adopted action plan by the hospital.

Abstract citation ID: ckae144.104
Organizational health literacy responsiveness in community pharmacies in Serbia

Dušanka Krajnović

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Background: The Faculty of Pharmacy at the University of Belgrade conducted a pilot study at community pharmacies in Serbia in 2023 in the framework of the M-POHL organizational health literacy (OHL) project. Community pharmacies in Serbia are considered relevant settings where people's health can be promoted within the organization.

Methods: The validated and culturally adopted Serbian version of the International Self-Assessment Tool for Organizational Health Literacy in Primary Health Care Services (OHL-PHC) was used. We recruited employees from 3 pharmacy chains with pharmacists from different units. A preparatory workshop was organized to explain the procedure and the concept of OHL. First, the self-assessment was performed in a small group of 5 persons individually, and then the results were discussed in a joint assessment. The self-assessment was based on the degree of fulfillment of 4 categories offered for each indicator: not fulfilled (0-25%), predominantly not fulfilled (26-50%), predominantly fulfilled (51-75%), and completely fulfilled (76-100%). The same scale was applied for the indicators, sub-standards and standards and the final score was the mean of the individual scores (min. 0, max. 4).

Results: The overall score of the OHL on the sample level was 1.93± 0.86, with the highest score for providing of easy access to primary care service and facilitating navigation (2.3±0.5). The least fulfilled standards were related to promotion of digital health literacy and promoting health literacy with the same score values of 1.7±1.0. Out of 69 indicators 1 had been self-assessed as not fulfilled and 15 reached low consensus ($SD \leq 1$), and needed to be discussed further.

Conclusions: Improvements in OHL in the piloted institutions are necessary for successful healthcare and health promotion and could be tailed in further usage of the OHL-PHC on a broader scope. More pilot studies are needed in other healthcare settings at primary level in Serbia.

2.L. Round table: Monitoring health reforms to inform policy innovation: the Health Systems and Policies Monitor

Abstract citation ID: ckae144.105

Organised by: Technische Universität Berlin (Germany), European Observatory on Health Systems and Policies
Chair persons: Katherine Polin (Germany), Ewout Van Ginneken (Germany)
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Background: The European Observatory on Health Systems and Policies' (Observatory) Health Systems and Policy Monitor (HSPM) network convenes an international group of around 50 national health systems researchers from over 40 institutions across 31 high-income countries, including all EU countries, Canada, Israel, the UK and the US. In advance of the HSPM annual meeting, experts share the current year's "top-three" health reforms in their countries via a standardized survey, soliciting details on content and general implementation processes. Reforms are iteratively organized into to 2 of 11 clusters, derived from the WHO health system building blocks. Experts then discuss background, status and content of national reforms in the year's main clusters and initiate cross-country collaborations. A repository of over 650 reforms since 2018 has been created and is available online, showcasing reform patterns in HSPM countries. The collected data have informed studies on reform trends in HSPM countries from 2018-2019 and between 2020-2022, with work ongoing. Data are also consulted by researchers and policymakers wishing to learn about and from reforms in other countries.

This workshop specifically aims to:

- Inform participants about the methodologies used by the HSPM network to track reforms
- Highlight common trends in major health reforms across countries since 2018
- Discuss national health reforms and the value of understanding and tracking these across countries
- Identify research gaps in reform monitoring relevant to policy makers
- Discuss how the health system research community can generate more relevant and actionable evidence

Added-value: The comparative analysis of reform trends provides insights into how systems operate and the types of reforms more likely to be implemented. The sharing of these insights also serves as a source of inspiration, allowing countries to learn from each other's successes and failures and adopt proven best practices. This is relevant for policymakers and researchers striving to support health systems strengthening. Therefore, the workshop will support knowledge exchange between researchers and policymakers by (1) informing researchers and policymakers about similar ongoing reforms in other countries and (2) identifying areas where researchers can contribute to country reform agendas, and (3) stimulating interest in cross-country collaborative research on similar and topical reforms in different countries.

Format: This is a roundtable workshop chaired and moderated by the Observatory. An overview of reform trends and patterns since 2018 will set the scene, followed by an interactive discussion with policymakers and HSPM network members to (1) delve into trend dynamics and implications for health policy and research and (2) identify major (missing) research areas relevant to policymakers. In addition, we will leverage the geographic scope and expertise of the audience to reflect on the value of monitoring reforms.

Key messages:

- Cross-country exchange of information on reform trends and implementation patterns can inspire future reforms and help policymakers identify promising policy approaches abroad.
- Knowledge exchange between researchers and policymakers helps to determine evidence gaps and to generate relevant and actionable evidence that can drive policy innovation.

Speakers/Panelists:

Reinhard Busse
Berlin University of Technology, Berlin, Germany
Ines Fronteira
National School of Public Health - NOVA University of Lisbon, Lisbon, Portugal
Iwona Kowalska-Bobko
Jagiellonian University Medical College, Institute of Public Health, Cracow, Poland
Isabel de La Mata
DG SANTE, European Commission, Luxembourg, Luxembourg
Vesna-Kestrin Petric
Ministry of Health, Ljubljana, Slovenia

2.M. Scientific session: Economics of Mental Health in the interplay between health systems and public health

Abstract citation ID: ckae144.106

Organised by: EUPHA-ECO
Chair persons: João Vasco Santos (EUPHA-ECO), Vanessa Gorasso (EUPHA-ECO)
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Mental health systems and services are essential components of the public health infrastructure, serving as frontline for prevention and intervention for health overall. Despite this, access to mental health services remains largely inadequate, with the OECD calculating that only about one in three people with mental health problems has access to quality treatment across 19 EU Member States. The economics of mental health play an important role in determining the allocation of resources, the accessibility of services and the overall effectiveness of interventions. Effective planning requires an understanding of population needs, service gaps and utilization patterns, in order to ensure equity and health improvement. In fact, the conceptualisation of the economic dimensions of mental health enables policymakers, practitioners, and stakeholders to make informed decisions that optimize resource utilization and maximize societal benefits. The proposed workshop will build on previous activities of the EUPHA Section on Public Health Economics at EPH, including the recent establishment of a working group on the economics of mental health. The aim of the meeting is to promote the adoption of best practices and methodologies in the conduct of economic studies on mental health. As such, the workshop will provide an opportunity to discuss the unique challenges of economic evaluation in this field and to present relevant ongoing activities by members of the Section and other invited experts.

Key messages:

- Mental health, its distribution and at-risk populations influence resource allocation and policy decisions within mental health systems.
- Tackling inequalities in mental health is essential for promoting health equity and social justice, requiring evidence-based interventions and policy initiatives to empower marginalized communities.

Abstract citation ID: ckae144.107
The economics of mental ill-health in the EU/EEA

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This presentation will provide an overview of the challenges and costs of mental ill health in 29 EU/EEA countries and an economic assessment of options to address current policy gaps. Nearly 20% of people in the EU/EEA experience mental ill health, with a particularly high prevalence among vulnerable groups such as people on low incomes or young people. However, in the majority of cases, and particularly for those with milder forms, these conditions go undiagnosed. Even when diagnosed, access to quality health services is sub-optimal, mainly due to financial issues or waiting times. The European Union and its Member States have identified mental ill health as a major public health threat, but there are still significant policy gaps and a lack of evidence on the most effective and cost-effective interventions to implementation. Building on its methodology for identifying and evaluating better public health policies for better lives, the OECD has recently extended the scope of its economic work to mental health. This presentation will start by providing an estimate of the health and economic burden of mental ill health in EU/EEA countries and will present evaluations of best practices in this field recently introduced by EU Member States. The talk will not only present the results of the analyses but will also use the identified case studies to discuss the approach used and some of the methodological issues involved in carrying out economic analysis for a set of diseases with high burden but relatively low mortality.

Abstract citation ID: ckae144.108
Estimating the economic burden of mental and substance use disorders in Belgium

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Mental and substance use disorders are the leading cause of disease burden (disability-adjusted life years, DALYs) in Belgium. Strong mental health policies are needed to reduce the burden, taking into account effectiveness and cost-effectiveness of possible interventions. Next to providing an overview of the economic burden of mental health conditions (what is), routine cost-of-illness studies also serve as a source of information for modelling the cost-effectiveness of policies and interventions to improve the mental health of populations (what could be). In the context of an extension of the Belgian Health Status Report and the Belgian National Burden of Disease Study, we calculated the direct medical costs of a range of health conditions, including mental health conditions such as depression. We used self-reported diagnostic data from the Belgian health Interview Survey linked with claims data to calculate the incremental costs attributable to mental health disorders with g-computation. We correct for confounders such as age and sex, and also look at uncertainty brought about by the data source and modelling. This presentation aims to share the experience of calculating the economic burden of mental ill-health in the context of a routine cost-of-illness study. We will present the results of the study and discuss alternative ways in which the costs of common mental health conditions such as depression could be estimated, for example based entirely on claims data using pharmaceutical cost groups.

Abstract citation ID: ckae144.109
Social Inequalities in mental health service use and perceived helpfulness: A global analysis across 111 countries

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Social inequalities in mental health are evident in the prevalence of mental health problems, but also the utilisation and patents' perceived benefits of treatment. However, the extent of these disparities on a global scale and whether there are country-level differences in the predictors of mental health service use remain unknown. This study uses data from the Wellcome Global Monitor 2020, a nationally representative survey encompassing 111 countries and 117,088 individuals. We examine the association of socio-economic factors (such as household income and education), psycho-social factors (including stigma perception and trust in health professionals), and country-level variables (such as GDP, Gini coefficient, and health expenditure) with mental health service use and perceived effectiveness of treatment. Multi-level logistic regression models were employed for analysis. The utilisation of mental health professions of people with depression or anxiety symptomology is higher in HICs (predicted probability of 62% CI[0.60 - 0.65]) compared to LIMCs (predicted probability of 33% CI[0.31 - 0.34]). Higher country GDP (OR = 1.26 CI[1.08-1.47]) and health expenditure (OR = 1.11 CI[1.04-1.19] per percentage of health expenditure) are associated with higher treatment utilisation. On the individual level, those in the wealthiest quintile are more likely to engage with mental health professionals (OR = 1.25[1.14-1.36]) and perceive this treatment as highly beneficial (OR = 1.23[1.07-1.40]). Trust in healthcare practitioners and perceived stigma are also associated with mental healthcare use. This analysis shows strong patterns of mental healthcare use and perceived benefits depending on the wealth of the country, health expenditure and individual socio-economic status. Moreover, disparities in treatment utilization and effectiveness are also influenced by trust in healthcare professionals and perceived mental health stigma.

2.N. Oral presentations: Improving physical and mental health outcomes

Abstract citation ID: ckae144.110

Can a Universal Mindfulness Programme Improve Well-Being in Adolescents?

Jemina Qvick

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Background: Approx. 14% of adolescents experience mental health disorders. Mindfulness-based interventions (MBIs) could be one way to support adolescents' well-being. We investigated the effectiveness of a 9-week school-based mindfulness intervention on adolescents' well-being, moderated by gender, grade, and independent practice.

Methods: In total 3519 Finnish adolescents (aged 12 - 15) from 56 schools were randomized into intervention, active (relaxation), and inactive (normal school curriculum) control groups. Well-being was assessed with two life satisfaction measures (Life Satisfaction [OECD] and The Satisfaction with Life Scale-Child [SWLS-C]) and positive and negative affects (Positive and negative affects [PANAS]) at baseline, at 9 weeks and 26 weeks and analyzed using multilevel linear modeling.

Results: Significant improvement in life satisfaction (SWLS-C) was found at 9 weeks in the MBI group ($\beta = 0.38$, 95 % CI 0.08-0.68, $p = 0.009$) compared to the active control. Furthermore, MBI demonstrated an increase in life satisfaction (OECD) among boys ($\beta = 0.25$, 95 % CI 0.04-0.46, $p = 0.016$) and 6th graders ($\beta = 0.26$, 95 % CI 0.04-0.49, $p = 0.015$) at 9 weeks compared to the active control. Additionally, MBI participants engaging in independent practice at least once a week had a higher increase in positive affect at week 26 compared to both the active ($\beta = 3.01$, 95 % CI 0.55-5.47, $p = 0.009$) and inactive control groups ($\beta = 2.81$, 95 % CI 0.23-5.40, $p = 0.026$). Those practicing MBI almost daily also demonstrated a higher increase in positive affect at week 26 compared to the active control group ($\beta = 2.95$, 95 % CI 0.28-5.62, $p = 0.023$).

Conclusions: MBI in the school context seems to have the potential to increase the well-being of adolescents, especially those who commit to regular independent mindfulness practice. Gender and grade may moderate the effects of MBI. Therefore, we need to better understand how gender and age influence the effectiveness of MBI.

Key messages:

- The findings indicate the need to further examine potential mediators and moderators that may influence the effectiveness of MBI on adolescents.
- According to this study, regular mindfulness practice in schools appears to be a promising way to improve well-being of adolescents.

Abstract citation ID: ckae144.111

Predictors of high blood pressure in children from 6 to 11 years: The PREDI cohort study

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Background: Hypertension is an important cardiovascular disease (CVD) in Brazil that affects approximately 30% of the adult population and accounts for nearly 50% of CVD-related deaths in the country. Identifying the main predictors of high blood pressure (BP) during childhood will help prevent the development of other CVDs in adulthood and deaths. This study aimed to estimate the effect of biological, demographic, and socioeconomic characteristics on the child's BP at 6, 9 and 11 years of age.

Methods: Cohort study conducted with 181 children in Joinville city, southeastern Brazil. Individual data were collected during three follow-ups (2016, 2021, and 2023) in a private room of the family's home. BP was measured by the auscultatory method. Poisson regression analysis adjusted for important covariates was used to estimate the relative risk (RR) of maternal and child weight status, demographic, and socioeconomic characteristics on the child's BP at ages 6, 9 and 11.

Results: The prevalence of high BP in children at ages 6, 9 and 11 was 26.5%, 20.4% and 3.0%, respectively. Pre-pregnancy body mass index (BMI) and the child's BMI were associated with high BP over the period investigated. The risk of children having high diastolic BP from 6 to 11 years of age was 6% higher (RR = 1.06; 95%CI 1.01, 1.11) when mothers had pre-pregnancy BMI ≥ 25 kg/m2, even after adjusting for child BMI. For each one kg/m2 increase in child BMI, the risk of children having high systolic BP pressure increased by 14% (RR = 1.14; 95%CI 1.05, 1.23), even after adjusting for pre-pregnancy BMI.

Conclusions: Pre-pregnancy excess body weight and increased child BMI were associated with high BP in children from 6 to 11 years of age. Addressing pre-pregnancy excess body weight and overweight in childhood, combined with BP monitoring from the age of six, are actions that can prevent the development of CVDs in adulthood, thus reducing a serious global public health problem.

Key messages:

- Encouraging parents to monitor their children's BP is essential to prevent associated chronic diseases throughout life.
- Identifying children with altered blood pressure is an important public health indicator.

Abstract citation ID: ckae144.112

How does family support mitigate the impact of childhood adversity on adolescent mental health?

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Background: Childhood adversity is associated with increased risk of developing mental health problems over the life course. We investigated how family emotional support in adolescence may mitigate the impact of childhood adversity on adolescent mental health.

Methods: We used longitudinal data from the UK Millennium Cohort Study on 9,269 children followed to age 17 years. Individuals were assigned to exposure trajectories characterised using group-based trajectory models that included measures of poverty and family adversities (parental mental ill health, parental alcohol misuse and domestic violence) up to age 14 years. Using counterfactual causal mediation analysis and four-way decomposition modelling approach, we evaluated how perceived family emotional support at age 14 (measured using the three-item Short Social Provisions Scale) influences the association of childhood adversity trajectories on mental health at ages 14 and 17, assessing the relative contributions of mediation and interaction simultaneously.

Results: Compared with children experiencing low adversity and poverty, those exposed to childhood adversity were almost three times more likely to experience poor mental health (RR 2·99, 95% CI 2 ·41 to 3·57) at age 14 and age 17 (RR 2·58, 95% CI 2·09 to 3·06). Perceived emotional support mitigates up to 18% (95% CI: 9% to 26%) of this effect at age 14, and 13% (95% CI: 5% to 22%) at age 17, mainly due to interactive mechanisms.

Conclusions: Childhood adversity has a strong effect on mental health, which is partially mitigated by perceived family support in adolescence. Policies that support positive family functioning may be particularly beneficial for children who have experienced adversity.

Key messages:

- Socio-economic – associated mental health problems in adolescence differed based on levels of family support.
- Approximately 20% of the social inequality in mental health outcomes in adolescence may be mitigated or reduced by improving levels of family support.

Abstract citation ID: ckae144.113

Land of Shadow: Perceived maternal self-efficacy

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Background: In our society, often women arrive at the motherhood without community and family models, and without an effective support network from the services. The aim of the study is to investigate mothers' perceived maternal competence (self -efficacy) and its possible correlations with pregnancy, birth and breastfeeding outcomes.

Methods: A retrospective observational study was conducted on a sample of mothers from all over Italy, using an online survey conducted from August to October2023.The questionnaire consisted of 26 questions including the Brief Parental Self-Efficacy Scale.The instrument used a score from 5 to 25; we used a score of 15 as cut-off for perceived low or high self-efficacy.Statistical analysis was performed with the chi-square test and subsequently, the Odds Ratio was calculated to define how statistically strong the association is between the BPSE score obtained and specific variables studied.

Results: The sample consisted of 4553 mothers.56.6% were women between the ages of 31 and 40 and 28.7% were women over 40 years old.20% of the women in our sample suffered from postpartum depression. The women in our sample report having received help in caring for their first child in 42% of the cases from their partner and in 30% of the cases from other family members.The mean BPSE score was 19.45.Women who obtained a BPSE Score >15 were more likely to have received support from their partner(O.R:1.4;C.I:1.1-2.0). Women who scored a BPSE Score<15 were less likely to have had support from partners/family members (OR:1.5;C.I:1.1-2.0). Women with a BPSE Score<15 were more likely to have experienced postpartum depression (OR:1.4;C.I:1.1-1.8).

Conclusions: Our study shows that the woman in particular who becomes a mother, cannot be left alone; she needs emotional and environmental support so that she can rediscover within herself the value, competence and power of motherhood.

Key messages:

- Action must be taken so that, along with improved health care, the network of social interventions for new mothers and couples is strengthened.
- The woman, in particular who becomes a mother, cannot be left alone.

Abstract citation ID: ckae144.114

Intergenerational Transmission of Overweight and Obesity among Preschool Children in Sweden

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Background: Child overweight including obesity (OWOB) has quadrupled globally, since 1975. It affects a third of European children and even higher rates persist among expectant parents. Parental pre-pregnancy body mass index (BMI) and health behaviours are known to influence offspring health. Thus, this study aimed to investigate the link between parental and children's OWOB, alongside parental socio-economic and other factors.

Methods: This is a population-based repeated cross-sectional study utilized data from the Salut Programme in Västerbotten, Sweden, and Swedish national registers, including 5,937 of 3-year-olds and their parents. Logistic regression analyses were used to examine the association of child BMI with prenatal BMI and other factors. Further, the Relative Excess Risk due to Interaction (RERI) arising from the interplay between parent's OWOB status in relation to their children's OWOB was calculated.

Results: OWOB prevalence rates for 3-year-olds, expectant mothers, and their partners were 15.1%, 29.1%, and 53.5%, respectively. Both parent's OWOB significantly affected children's BMI (with strongest association for mothers). The Relative Excess Risk due to interaction (RERI) was positive for children's OWOB if both parents were obese, showing an additive interaction effect of individual parental obesity status. The odds for a child to be OWOB was 2.88 (1.83-4.43) if both parents were obese compared to if none of them were obese.

Conclusions: OWOB among preschool children remain an important public health concern in Sweden. Based on the study findings, Sweden's regional and national public health initiatives should prioritize targeting parental overweight and obesity as a key strategy to reduce the burden of OWOB among children. Furthermore, the resemblance of these results with comparable studies across the world, emphasizing the importance of initiating interventions with parents before pregnancy or even earlier.

Key messages:

- Parental combined obesity status significantly increase the odds of childhood overweight and obesity.
- The importance of initiating interventions with parents before pregnancy for better health outcomes related to child BMI.

2.O. Oral presentations: Mental health of migrant populations

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Abstract citation ID: ckae144.115

Labour migration and mental health of left-behind children in Georgia: a mixed methods study

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Background: Global migration is on the rise, and as a result, millions of children are left in their home countries while their parents migrate abroad. Little is known about the mental health of left-behind children (LBC) in Eastern Europe. The study addresses this research gap in Georgia, a leading migrant-sending country in the region.

Methods: Applying convergent parallel design, this mixed methods research integrates a qualitative study with schoolteachers from six public schools in Samegrelo and Guria regions (6 focus group discussions and 6 in-depth interviews) (i); a school survey with 933 adolescents (ii) from 18 public schools, (12-18 age group, internalizing and externalizing problems assessed with Aschenbach's "Youth Self-Report" questionnaire), and a qualitative study using life-narrative interviews with 39 adolescents (iii). We analysed qualitative data using reflexive thematic analyses and applied multiple linear regression to analyse quantitative data.

Results: The Quantitative and qualitative findings converge in some respects while diverging in others. Schoolteachers perceive migratory separation as a traumatizing life event, making children vulnerable to mental health issues. Similarly, schoolchildren perceive separation from parents as a stressful life event; however, they also acknowledge positive aspects of migrant labour, such as material benefits. From the perception of LBC, close family ties, friendships, school support, and optimism help with coping. This study also revealed a gender disparity, with boys exhibiting more rule-breaking behaviour and girls performing worse on most Youth Self- Reported syndrome scales. Regression analysis showed associations between adolescents' problem behaviours and relationships with family members, friendships, and school environment.

Conclusions: This research found that parental migration effects on children are complex and depend on individual and transnational family characteristics.

Key messages:

- Left-behind children may need emotional and academic support.
- Strengthening family ties, supportive school environment and friendships contribute to adolescents' coping with parental migration.

Abstract citation ID: ckae144.116

Cross-cutting integration of equity and diversity lens in public health: a novel approach of JACARDI

Benedetta Armocida

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Issue/Problem: Health inequities persist across European countries, impacting the distribution, prevention, and management of non-communicable diseases. With increasing population diversity and improved understanding of the intersectional nature of drivers of health inequities, narrowing inequities calls for systematic integration of diversity perspectives into equity-driven policy and practice.

Description of the problem: The EU-co-funded Joint Action on CVDs and diabetes (JACARDI, 11/2023-10/2027) project with 76 partners from 21 countries and 142 national-level projects (later pilots), applies a structured approach for integrating equity and diversity perspectives within all project structures. This is achieved through design of a common methodological framework and terminology glossary for all thematic work packages (WPs) and their pilots, which are further supported through capacity building sessions and consultations.

Results: The "4Cs" framework (Critical reflection; Context and data; Co-design; and inclusive and accessible Communications) for integrating equity and diversity principles in JACARDI was developed based on results of focus group interviews with WP leaders ($n = 24$) and review of previous literature. This framework was applied as a lens to be applied in the planned activities by WPs and pilots, elaborated in an equity and diversity maturity matrix aligned with the XV methodological steps for pilot implementation. Additionally, equity and diversity indicators were integrated into harmonized context analysis questionnaires for national focal points of each partner country, as well as into the methodology for pilot assessment and reporting.

Lessons: Equity and diversity perspectives should be integrated into the core structures of project implementation, supported by practical tools, trainings and practical consultations to improve adherence and collaborative understanding across project partners.

Key messages:

- Equity and diversity integration into core structures are essential for tackling health inequities and the NCD-related social gradient in Europe.
- Encouraging critical reflection among JACARDI partners is pivotal for initiating a paradigm shift towards equity and diversity inclusion.

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Increasing inequalities in mortality among individuals with a foreign background in Sweden

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Background: Previous research indicates that migrants in high-income destination countries not only experience a mortality advantage but also demonstrate lower or absent socioeconomic inequalities in mortality compared to the general native population. Yet the extent to which an income mortality gradient may also be evident among the descendants of migrants has been largely unexamined. Existing evidence has revealed that descendants of migrants face mortality risks higher than both migrants and their native-born peers.

Methods: This study utilizes longitudinal population registries covering the entire registered population of Sweden from 2004 to 2016. The study population comprises individuals aged 25 to 64, employing an open cohort design. Using Poisson regression, we examine the relationship between income rank position and cause-specific mortality among native-origin Swedes and eight nativity groups based on individuals' country/region of birth, age of migration or parental origin.

Results: While foreign-born individuals who migrated as adults exhibited lower inequalities in all-cause mortality compared to native-origin Swedes, descendants of immigrants, particularly those with non-European backgrounds, show larger inequalities. Examination of specific causes of mortality revealed that external causes, notably accidents and assaults, account for increased disparities among non-European foreign-born men who migrated during childhood and male descendants of immigrants with non-European backgrounds.

Conclusions: Income-related inequalities in mortality are less pronounced among migrants compared to the native-born majority population in Sweden and tend to be higher among descendants of migrants, depending on gender and parental origin. The analysis highlights the role of external causes of mortality in shaping these inequalities, indicating that income disadvantages, augmented by a migrant background during upbringing, amplify specific health risks within these groups.

Key messages:

- The study reveals lower mortality inequalities among migrant adults but a higher magnitude of inequalities among male descendants of immigrants, especially with non-European backgrounds.
- Income disparities, combined with migrant backgrounds, amplify health risks among descendants of migrants in Sweden, underscoring the need for tackling social inequalities.

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Unmet healthcare needs in migrant population in Finland: comparative analysis between 2014 and 2022

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Background: Timely access to health services is one of the cornerstones of universal health coverage. However, various individual and structural factors remain as barriers to meet this goal. Access to physician services remains a concern for migrant populations, with a substantial proportion experiencing unmet healthcare needs, surpassing rates observed in the general population of Finland. This study aims to assess temporal changes in unmet healthcare needs among migrants in Finland across the years 2014, 2018, and 2022, investigating potential disparities across population groups.

Methods: Three nationally representative datasets derived from cross-sectional surveys are used; Survey on work and well-being among people of foreign origin 2014-2015 (UTH), Survey on well-being among foreign-born population 2018-2019 (FinMonik) and National survey on health, well-being, and service use among foreign-born population 2022-2023 (MoniSuomi). We analysed data from individuals aged 20 to 64 years. Multivariate logistic regression analysis, adjusting for sociodemographic and socioeconomic factors, is employed to compare unmet healthcare needs in migrant populations with the Finnish general population.

Results: A significant increase was found in unmet healthcare needs among migrant populations in Finland from 2014 to 2022. Prevalence rates rose from 25.0% in 2014 to 24.9% in 2018 and reached 33.7% in 2022. Preliminary analysis suggests that younger age, migration from the Middle East and Africa, and refugee status are associated with higher odds of experiencing unmet healthcare needs.

Conclusions: The escalating prevalence of unmet healthcare needs between 2014 and 2022 among migrant populations in Finland is a cause for concern. This research underscores the urgent need for policymakers, healthcare providers, and community advocates to address healthcare inequities and ensure equitable access to healthcare, to ensure universal health coverage for all individuals in Finland.

Key messages:

- The prevalence of unmet healthcare needs between 2014 and 2022 among migrant populations in Finland has escalated, compared to the Finnish general population.
- Preliminary analysis suggests that younger age, migration from the Middle East and Africa, and refugee status are associated with higher odds of experiencing unmet healthcare needs.

2.P. Scientific session: Improving health impact assessment in the context of EU policy cycle

Abstract citation ID: ckae144.119

Organised by: JRC – European Commission, DG SANTE European Commission, EUPHA-HIA, -EPI, -PHPP, -ENV, -ECO, -FS

Chair persons: Piedad Martin-Olmedo (EUPHA-HIA), Stefania Boccia (EUPHA-EPI)
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The European Commission (EC) is responsible for planning, preparing and proposing better and simpler new policies, avoiding unnecessary burdens, and involving citizens and any interested stakeholders in the decision-making process. The EC is also responsible for evaluating existing European laws and proposing improvements where necessary. In achieving these goals, the EC has defined its "Better regulation" (BR) policy, governed by a set of common principles and established procedures, including the assessment of the most significant impacts on the economic, environmental, and social domains, among others. These assessments should be based on the best available evidence, which refers to multiple sources of data, information and knowledge, including quantitative (e.g. statistics and measurements) and qualitative data (e.g. opinions, stakeholder input, scientific and expert advice). BR's principles and procedures also ensure the implementation of more effective, coherent, relevant and efficient initiatives, improving the transparency, participation, learning and accountability. With this approach, the EC also seeks to guarantee that all legislative proposals contribute to the 2030 sustainable development agenda, and to better planetary health. As stated in the EU Treaty (Article 168 TFEU), "a high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities". Therefore, assessment of any potential health impacts should be addressed during the policy cycle. Health gains and health losses can be direct or indirect, and particular attention should be given to specific population groups that may be disproportionally affected by the intervention (e.g., children, persons with disabilities, pregnant women, the elderly, low-income groups). The design and improvement of healthy public policies was precisely the ultimate goal for which the WHO proposed in 1999 the Health impact assessment (HIA) approach. HIA practice is grounded in the WHO's health definition, which encompasses physical, mental and social health and wellbeing, and it is closely linked to the social determinants of health framework and to Health in All Policy strategy. Several quantitative methods are available to estimate health impacts within HIA applied to policies. The environmental burden of disease (EBD) is one of them aiming at quantifying the impact of a health problem as measured by avoidable mortality/morbidity, financial cost, or other indicators attributed to environmental factors (e.g. exposure to chemicals). EBD approach allows policy actions to be based on estimated health gains, rather than on "safe environmental levels" of the risk factor alone. The main aim of this session will be to analyses different quantitative approaches and provide some recommendations and good practice on how epidemiological evidence can support the policy cycle, improving data collection, evaluation and reporting suitable to such context.

Key messages:

- Refining epidemiologic data recording and reporting, especially uncertainty characterisation, is necessary to improve weight-of-evidence evaluations for a better regulation process.
- Environmental burden of disease, as a tool for quantifying health impacts, provides crucial information to policy makers on how to regulate for better protecting population health.

Abstract citation ID: ckae144.120
Health impacts methodology in the European Commission

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The state of play in the implementation of health impacts methodology within European Commission impact assessments reveals both advancements and challenges. The Commission has acknowledged the significance of assessing health impacts and has provided a generic methodological description, as outlined in Tool #32 of the Better Regulation guidelines. However, translating this guidance into practical application encounters obstacles stemming from challenges intrinsic to the policy in question, a lack of skills and knowledge, data gaps, and complexities in establishing causal links. In EU policymaking, health impacts are consistently appraised in relevant Impact Assessments across various policy areas, but the methodological intricacy varies. In the fields of public health, occupational safety, and environmental protection, econometric modelling is often employed to quantify potential health impacts rigorously. This involves sophisticated analytical tools designed to capture the complexity of the interactions. Conversely, in areas where the link between policies and health outcomes is less direct (e.g. food safety) or where data limitations pose challenges, a more qualitative appraisal is applied. This acknowledges the limitations in precisely quantifying health impacts and focuses on providing a nuanced understanding of potential health effects based on available information.

Abstract citation ID: ckae144.121
Applying knowledge translation for an effective use of Burden of Disease

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Burden of disease, expressed in disability-adjusted life years, is a very powerful metric to assess population health. It combines both mortality, i.e. years of life lost, and morbidity, i.e. years lost due to disability and is increasingly used within public health policy making. However, the substantial demand for (good quality) data, the involved methodological choices and the complexity of the concept make it also challenge to calculate Burden of Disease and to have the results properly used, e.g. in the policy making process. The concept of Knowledge translation provides a systematic way of dealing with the synthesis, dissemination, and application of research findings to improve health outcomes and inform policymaking. Understanding the burden of disease is fundamental to effective knowledge translation, as it helps prioritize research efforts, target interventions to address the most significant health challenges, and allocate resources efficiently. The four different models of knowledge translation, i.e. the push, pull exchange and integrated model, provide a sound theoretical basis to strengthen the use of burden of disease in policy making. To have an effective way of knowledge translation, the following basic facets are important: timing of providing results, having policy-relevant results, for whom are the results relevant and in what way to get the results to a potential user. This presentation will focus on how to deal with these different aspects, building on experiences of burden of disease studies throughout Europe.

Abstract citation ID: ckae144.122
Role of epidemiology in the EU policy formulation of chemicals

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Over the past 50 years, the European Union has built a robust legal framework for managing chemicals. This framework balances the benefits of using chemicals for societal well-being and economic prosperity with the need to protect human health and the environment from potential risks. As part of the EU's Zero Pollution ambition in the context of the Green Deal, the European Commission adopted in 2020 the Chemicals Strategy for Sustainability, with the aim to better protect human health and the environment from harmful chemicals, while boosting innovation by promoting the use of safer and more sustainable chemicals. Assessing quantitative health impacts within the EC Better Regulation guidance typically involves indicators measuring the environmental burden of disease (EBD), providing a useful mean for legislators to evaluate the benefits of policy actions both in terms of health gains and cost. While such analyses are common in air pollution studies, challenges arise in the chemical legislation area, particularly in non-occupational settings, where the population is exposed to low concentrations of many chemicals through multiple exposure routes. In such contexts, the intrinsic complexities linked to exposure characterization and to the assessment of causality between the exposure and the health outcome may hinder the estimation of benefits of legislative actions. Debates may arise regarding the reliability of the underlying epidemiological studies, making challenging for policymakers to ascertain the robustness and generalizability of the findings of such analyses. Our work provides a summary and analysis of recent case studies in the context of chemicals. We focus on how epidemiological evidence was used in conducting EBD analyses in supporting better formulation of EU polices of chemicals.

Speakers/Panelists:
Marleen Bekker
Wageningen University & Research, Wageningen, Netherlands

2.Q. Skills building seminar: Publishing and disseminating your research: How to get published, and what then?

Abstract citation ID: ckae144.123
Organised by: EUPHA
Chair persons: Monica Brînzac (EUPHAnxt)
Contact: Peter.Allebeck@ki.se

Getting your public health research published can be a real challenge, and the publishing process is not always clear. Often it takes a lot of time, effort and perseverance. In this skills building workshop, participants will be able to learn the ropes from the Editor-in-Chief and the Publisher (OUP) of the European Journal of Public Health (EJPH), EUPHA's scientific Journal. The EJPH is a well-established multidisciplinary, Open Access journal that covers a broad scope of public health topics. It's current impact factor is 4.4. The workshop will have the format of an interactive clinic and will start with short presentations by the Editor-in-Chief of the EJPH and the Publisher on how to write, how to disseminate your findings, and tools the publisher has for helping promote your research for the best impact. The Editor-in-Chief will focus on what makes manuscripts attractive to editors and reviewers, while the publisher will give an overview of the publishing process, important aspects of the wider publishing industry (including how to publish your work Open Access) and give authors tips of how to promote their articles post-publication. After that, there will be ample time for participants to ask their questions to the panellists. This skills-building workshop will be of interest to anyone who would like to increase their chances of getting published and who would like to learn more about creating impact with their publications. The session should in particular be helpful for young researchers who do not have a lot of publishing experience yet.

Key messages:

- Think about relevance to public health, and what your research adds to science and policy.
- Think about what tools you can use to disseminate your findings.

Speakers/Panelists:
Peter Allebeck
Karolinska Institute, Department of Global Public Health, Stockholm, Sweden
Rachel Moriarty
Oxford University Press, Oxford, UK

3.A. Round table: Towards a research agenda for burden of disease studies

Abstract citation ID: ckae144.124
Organised by: EUPHA-ECO, European Burden of Disease Network, OECDChair persons: Vanessa Gorasso (EUPHA-ECO), João Vasco Santos (EUPHA-ECO)
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What are the most relevant diseases in a country? Which risk factors are the strongest contributors to disease and death? How is the impact of different diseases evolving over time, and how does it compare between countries and within subnational units? As the need for prioritising the use of available resources constantly increases, a timely, sound and comprehensive answer to these fundamental questions is more than ever needed to inform public health decision-making. Driven by the impact of the Global Burden of Disease study, several researchers and national and international health institutes have adopted the burden of disease approach to address these questions. The complexity of the burden of disease approach however resulted in major disparities in research capacity across Europe. Furthermore, the current burden of disease landscape remains scattered, and researchers struggle to translate their findings to decision makers. The European Burden of Disease Network (COST Action CA18218) addresses these challenges by acting as a technical platform for integrating and strengthening capacity in burden of disease assessment across Europe and beyond. The different activities of the Network have helped to improve the quality and comparability of burden of disease estimates and increase their use in policy and practice. However, still many challenges remain. As a way of looking into the future applications of the burden of disease metrics, the European Burden of Disease Network took the initiative of developing a research agenda based on barriers and weaknesses identified within the activities of the network and input from researchers working regularly with burden of disease. As an initial step, a series of systematic literature review was carried to identify barriers and weaknesses in the computation of burden of disease estimates. These highlighted the differences in methodological choices that could hamper the comparability of results. This point was later identified as a key element of future development (abstract one). Secondly, the members of the network were consulted. Online questionnaires and structured consultations led to the identification of four main pillars of the future research agenda: transparency and availability, refining current methods, new applications, and prioritization of topics.

In this workshop, we will present different activities within and outside the Network that correspond to the four pillars above described (abstract 2-4) and start the reflection on the future of burden of disease estimated.

Key messages:

- Despite the wide use of the burden of disease approach, many challenges were identified in the replication of the methods and the need for further developments.
- A new research agenda for burden of disease estimates will formalize a way to strengthen methodologies, interpretations and applications.

Abstract citation ID: ckae144.125
Improving transparency: Development of reporting guidelines for burden of disease studies

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The burden of disease (BOD) approach, originating with the Global Burden of Disease (GBD) study in the 1990s, has become a cornerstone for population health monitoring. Despite the widespread use of the Disability-Adjusted Life Year (DALY) metric, variations in methodological approaches and reporting inconsistencies hinder comparability across studies. To tackle this issue, we set out to develop guidelines for reporting DALY calculation studies to improve the transparency and comparability of BOD estimates. The development of the STROBOD statement began within the European Burden of Disease Network, evolving from initial concepts discussed in workshops and training sessions focused on critical analysis of BOD studies. In 2021, a working group was formed to refine the preliminary version into the final Standardised Reporting of Burden of Disease studies (STROBOD) statement, consisting of 28 items structured across six main sections. These sections cover the title, abstract, introduction, methods, results, discussion, and open science, aiming to ensure transparency and standardization in reporting BOD studies. Notably, the methods section of the STROBOD checklist encompasses aspects such as study setting, data inputs and adjustments, DALY calculation methods, uncertainty analyses, and recommendations for reproducibility and transparency. A pilot phase was conducted to test the efficacy of the STROBOD statement, highlighting the importance of providing clear explanations and examples for each reporting item. The inaugural STROBOD statement offers a crucial framework for standardizing reporting in BOD research, with plans for ongoing evaluation and potential revisions based on user feedback. While the current version focuses on general BOD methodology, future iterations may include specialized checklists for distinct applications such as injury or risk factor estimation, reflecting the dynamic nature of this field.

Abstract citation ID: ckae144.126
Refining current methods: Including comorbidity adjustment in burden of disease estimates

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When quantifying years lost due to disability (YLD), a correction for multimorbidity (or comorbidity, COMO for short, in the Global Burden of Disease study) is necessary to avoid overestimating the morbidity-related burden of disease. Such an overestimation occurs if the calculation of disease frequencies does not consider that persons are counted more than once in a cross-sectional year. In such cases, the time spent with illness at an individual level can add up to a value of more than 1 year. To avoid this, a microsimulation is used that corrects the YLD to a maximum value of 1. A standard approach is to generate a synthetic data set by age, gender and region. Using prevalence estimates and based on (independent) Bernoulli experiments, a vector of diseases is randomly assigned to these (pseudo) individuals. The assignment is usually independent, which means that the presence of one disease has no influence on the presence of another disease. At this level, the individual YLD are then proportionally corrected (the maximum value is 1) and extrapolated to the population. However, there is evidence that disease clusters exist at the individual level. As part of the further development of such multimorbidity correction methods, a new approach will be tested and applied to generate a more realistic population of interest. This considers correlation patterns (1st step) between diseases when generating the synthetic data (2nd step) on the basis of Bernoulli experiments. For this purpose, the existing approaches need to be enriched by (pairwise) correlations between diseases, which requires the inclusion of additional epidemiological data sources. It is assumed that this will lead to an additional correction of the YLD, as they are still overestimated under an independent assignment.

Abstract citation ID: ckae144.127
Working on new applications: Use of economic evaluation in burden of disease estimates

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Burden of disease (BoD) analyses provide policy-makers with useful evidence to prioritise policy responses to major public health threats. Increasingly, however, epidemiological data alone is not considered as sufficient to inform decisions, particularly when funding is allocated within a single government approach and different sectors compete for a larger share of the overall budget. Similarly, other funders, such as charities and foundations, may want to prioritise budget allocation between health and non-health objectives. In all these cases, traditional BoD analyses need to be complemented by economic evaluations. In its simplest form, the economic component may mean adding an assessment of the healthcare costs caused by the diseases in the study. A more comprehensive, though still with limitations, approach is to use monetary values to measure the extent to which individuals are willing to exchange their income - which can be spent on other things - for the health outcomes they experience. Finally, in its most advanced and comprehensive form, analyses can include assessments of a number of relevant dimensions, such as those in the OECD's Better Life Index. The latter approach is also consistent with, and its results support the implementation of, a health in all policies approach. This presentation will look at traditional and innovative approaches that can be used to add an economic dimension to BoD analyses. After introducing the rationale and key methodological issues of each approach, the presentation will discuss the advantages and disadvantages of each methodology and will identify areas where their use can be beneficial in guiding the decision-making process. Examples of the use of these methodologies in real-world analyses will also be presented to support the theoretical part of the discussion.

Abstract citation ID: ckae144.128
Working on new topics: Estimation of the burden of zoonotic diseases

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Zoonoses, diseases naturally transmitted between vertebrates and humans, represent significant global health threats. These diseases not only affect human health but also impose a considerable burden on animal populations, emphasizing the need for a One Health approach that integrates strategies across human, animal, and environmental health sectors. The socioeconomic impacts of zoonoses are profound in low- and middle-income countries, disrupting production systems, impacting livelihoods, and compromising food security. Populations in these regions are excessively affected, highlighting the urgent need for a comprehensive approach. The disability-adjusted life year (DALY) quantifies disease burden in terms of morbidity and mortality. The zoonotic DALY (zDALY) expands this metric by incorporating the burden on animals through the 'animal loss equivalents', accounting for both fatal and non-fatal outcomes in livestock. However, zDALYs do not encompass broader economic impacts associated with prevention and treatment. Cost of illness (COI) studies further quantify the financial costs due to health issues; ad hoc approaches can be used to quantify other costs related to animal disease control and eradication, trade and movement Implications, or loss of consumer confidence. While few zoonoses, such as cystic echinococcosis and brucellosis, have comprehensive data across these metrics, most do not. While these metrics provide complementary insights, no holistic metric currently encompasses all necessary aspects to fully assess the burden of zoonoses within a One Health framework. This presentation aims to offer state-of-the-art estimates of the disease burdens of zoonoses, employing DALY, zDALY, and COI studies. It will explore how to integrate these metrics from a One Health perspective. Indeed, only by integrating health and economic metrics that consider the well-being of humans and animals, can the One Health approach effectively be developed for zoonotic diseases.

3.B. Scientific session: Why do we need clear understanding of digital public health interventions?

Abstract citation ID: ckae144.129

Organised by: ASPHER Digital Public Health Taskforce, Leibniz ScienceCampus Digital Public Health Bremen (Germany)
Chair persons: Laura Maaß (Germany), Mariusz Duplaga (Poland)
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The rapid proliferation of digital technologies in health and public health has led to various terms and concepts, often used interchangeably or inconsistently. This ambiguity hampers communication, complicates research efforts, and undermines the effectiveness and adaptation of interventions. Without a clear understanding of such concepts, stakeholders face difficulties using, evaluating, and regulating digital public health (DiPH) initiatives. Thus, there is an urgent need to establish a common language - across academic disciplines and in the science-to-practice/policy transfer - to foster collaboration, ensure accountability, and maximize the impact of DiPH interventions globally. This workshop highlights the need for a cross-sectoral understanding of terms and concepts related to DiPH interventions. For this, we identify effective strategies for engaging diverse populations in DiPH interventions, considering accessibility, usability, and cultural sensitivity. Additionally, we present how a more precise understanding of these concepts will impact positive population-health outcomes of DiPH interventions. Finally, we discuss DiPH terminology enhancement regarding data protection, highlighting the boundaries of digital interventions within and outside health policies and public health systems, given the diversity of the legal frameworks applicable in either case. We aim to facilitate interdisciplinary collaboration and knowledge exchange, fostering a shared understanding of terminology and best practices. This will advance DiPH by promoting clarity, rigor, and transparency in research and practice. Shared understandings of key concepts will eventually enhance the design, implementation, and evaluation of DiPH interventions, leading to improved population health outcomes and informing evidence-based policymaking and regulatory frameworks. The workshop consists of four presentations and a 20-minute panel discussion on increasing understanding dissemination. The first talk highlights multi-stakeholder perspectives (including researchers, technicians, health and medical practitioners, and the general public) on the ever-changing terminology of DiPH concepts. The second presentation showcases how these varying perceptions influence the academic representation of DiPH interventions and that interventions - although summarized under the same terminology - drastically vary concerning their use case and characteristics. The third speaker will discuss why a clearer understanding of these terms is needed to increase engagement with DiPH interventions for positive population health outcomes and identify effective DiPH interventions based on evidence. The last talk explains why unclear terminology or standards threaten populations and result in over- or under-regulation of DiPH interventions. Overall, this workshop catalyzes advancing the DiPH agenda in Europe, empowering stakeholders to harness the full potential of technology for promoting population health.

Key messages:

- When we create technical terms, it is our professional approach, characterized by our academic background. It does not necessarily transfer to other domains or the general population.
- Digital Public Health can transform global healthcare. However clear & harmonized terminologies are crucial for comparing evolving technologies & paving the way for transformative digital healthcare.

Abstract citation ID: ckae144.130
A long journey from telemedicine to digital (public) health: the vision of different stakeholders

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The healthcare system willingly adopts new innovative means of communication and solutions offered by computer science. Telemedicine was one of the first terms used in this context. It was initially associated with providing medical services but quickly extended to other areas of health-related activities, including public health. The growth of the global web yielded new prospects for the provision of health services, also resulting in new terms to name the use of information and telecommunication technologies in healthcare. E-health, stemming from the end of 90ies in the 20th century, was initially defined as a new domain strongly associated with public health, especially in the context of access to health information. Quickly, its understanding was extended to all health-related interventions based on innovative digital technologies. Today, digital health and digital public health have emerged as the key terms, signifying the next phase of emerging applications that leverage the advancements made on the technical front. The medical community is probably more inclined to use the former term, while public health professionals are dedicated to the latter. But do these terms carry distinct meanings? Or is it merely a matter of the professional group's background? Is the focus on individual or population health a differentiating factor? In the meantime, business and technical communities have developed the concept of Health 4.0. This concept emphasizes using technologies like the Internet of Things, cloud computing, big data, and artificial intelligence. However, digital (public) health benefits hugely from these solutions. One can ask whether every professional community needs other concepts and new terms for naming fields, resulting from the multidisciplinary effort. And where are the plain people in this landscape? Do they have sufficient digital and health literacies to accept new modes of health service delivery?

Abstract citation ID: ckae144.131
Same term, but unequal understanding: differences in digital public health intervention features

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Digital technologies have transformed healthcare delivery and public health, with many countries integrating interventions such as online consultations, electronic health records, and telemedicine to improve population health and healthcare accessibility. Multinational assessments for benchmarking system maturity ask for the degree of implementation of such tools. However, are these interventions as comparable as they claim to be? This talk presents a qualitative analysis of 179 digital public health (DiPH) interventions described in scientific articles. We categorized interventions based on their implementation stages, public health functions, and reported and non-technical features. Telemedicine, health apps, and electronic health record interventions dominated the diverse landscape. While these technology groups already differed greatly in their functions, we identified equally significant differences in the reported intervention characteristics within the groups. For example, telemedicine was not only used in healthcare settings for patients and health professionals but also in primary prevention and research for researchers, policymakers, and healthy individuals. Different interventions reported varying functions, such as remote monitoring, self-monitoring, alarm systems, patient motivation, and user empowerment modules. So, is there one common telemedical intervention? No. Instead, all individual technologies differed to varying degrees. The analysis underscored the diversity of DiPH interventions among and within intervention groups and highlighted the importance of precise terminology for effective planning and evaluation. Instead of using broad classifications like 'telemedicine,' interventions should be defined and communicated based on specific technological functions, non-technical characteristics, use cases, and user groups. This approach will promote cross-disciplinary collaboration and foster international comparability across DiPH systems.

Abstract citation ID: ckae144.132
Navigating the complexity of User Engagement: need for normative evaluations in digital interventions

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Digital behavioral change interventions (DBCI), leveraging digital technology to promote cognitive behavioral therapy or positive psychology techniques, can potentially revolutionize health promotion. With applications across a spectrum of health behaviors-from managing common mental health disorders to enhancing physical activity, addressing smoking cessation, alcohol use, and weight management-these interventions offer promise for both healthy and clinical populations. However, their effectiveness hinges significantly on user engagement. Digital interventions are prone to attrition due to their self-help and unguided nature, which impedes their translation from research to real-life settings. This talk discusses the findings of a scoping review to shed light on these complexities. Firstly, we explore the various methodologies used to evaluate engagement across studies, hindering effective comparison and understanding. Secondly, we address the lack of systematic assessment of engagement strategies, advocating for experimental research to fill this gap. Lastly, we emphasize the need to establish an optimal level of engagement for desired outcomes, noting that continuous engagement may not always be conducive to behavioral change interventions, which aim to instill lasting changes in individuals. This underscores the importance of comprehensive assessment using both objective and subjective measures. In conclusion, engagement with digital interventions encompasses both quantitative usage metrics and qualitative subjective experiences, highlighting the need for comprehensive assessment beyond the mere evaluation of frequency or duration. Contrary to common belief, increased engagement does not always lead to better outcomes. Too much engagement can lead to exhaustion, while too little can result in inefficiency. Therefore, designing a DBCI that encourages optimal use is essential, fostering a balance that maximizes effectiveness while minimizing adverse effects.

Abstract citation ID: ckae144.133
Digital Public Health and Digital Health: twins or Neighbors? A data protection perspective

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Enhancing digital public health (DiPH) terminology may foster a better understanding of the legal framework that grounds the use of personal health data within and outside public health policy and public health systems. Terminology accuracy is, therefore, relevant to understanding the data protection regulations that apply to DiPH interventions. The broader or narrower possibilities for using personal health data in digital health interventions depend on the legal basis that justifies (or not) the access to personal health data, whether inside public health policy or outside (e.g., in private health companies). In the context of digital health policy for DiPH, using personal health data is based on public law, analyzing proportionality, necessity, and the legitimacy of the interest. In contrast, for digital health interventions outside public health policy or in an individual clinical approach (like in digital health), the use of personal health data is based on informed consent. Brazilian data protection law (LGPD) and European GDPR provide the legal basis for public health systems' use of health data in health policy. As a result, the DiPH approach highlights the relevance of using digital technologies and health data to strengthen public health systems within the platform economy and the context of surveillance capitalism. This presentation will shed light on the expansion of digital technologies and health data in health policy in the face of data science, highlighting the need to delve into the terminology of DiPH, understanding its boundaries and legal differences from its neighbors (not twins) outside health policy. Clarifying the DiPH approach, potentially leading to standards in terminology and embedding a data protection perspective, may maximize the accuracy of the legal justification for personal health data use in health policies. DiPH, therefore, may foster data protection, public health systems, and policies strengthening with health data.

3.C. Pitch presentations: AMR and other health threats

Abstract citation ID: ckae144.134
Risks of high temperature exposure on infectious diseases in Portuguese hospitals

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Background: The convergence of climate change and infectious diseases presents a growing public health challenge. As global temperatures continue to climb, the geographical spread of climate-sensitive diseases is shifting, underscoring the necessity for comprehensive early warning systems grounded in a One Health framework.

Methods: This retrospective observational study analyzed daily maximum temperature from May to September, between 2000 and 2018, in mainland Portugal, at a county level, obtained from a European-level gridded observations dataset. Hospital admissions with a primary diagnosis of infectious and parasitic diseases were sourced from the Hospital Morbidity Database. A distributed lag non-linear model was developed to estimate the immediate and lagged relative risks (RR) of temperature exposure on admissions, focused on a lag of 10 days.

Results: Our research reveals a 16% (95% CI: 9% - 23%) rise in the RR of hospital admissions due to infectious and parasitic diseases after exposure to extremely high temperatures (39 °C). This elevated risk persists for up to 2 days following exposure, with the second day exhibiting the largest increase at 53% (31% - 80%). Furthermore, our findings indicate a subsequent resurgence in RR, reaching 6% (2% - 11%) 9 days after exposure.

Conclusions: Our results highlight a short-term effect of extreme temperature exposure on infectious and parasitic disease admissions. This data provides valuable insights to guide policymakers in identifying critical periods of vulnerability and implementing this knowledge into heat early warning systems, contributing to developing effective public health strategies against climate change.

Acknowledgments: The authors thank Fundação para a Ciência e a Tecnologia (FCT, Portugal) for research grant UIDP/04923/2020 and NOVA National School of Public Health for access to the Hospital Morbidity Database made available for research purposes by Administração Central do Sistema de Saúde, IP (ACSS).

Key messages:

- Exposure to extremely high temperatures increases the risk of admission due to infectious and parasitic diseases by 16%, with a peak occurring two days after exposure.
- This data is essential for policymakers to identify and integrate vulnerable periods into early heat warning systems, enhancing effective public health strategies against climate change.

Abstract citation ID: ckae144.135
Integrating SDGs, One Health and transdisciplinarity into AMR Education Strategies

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Introduction: The increasing prevalence of Antimicrobial Resistance (AMR) threatens modern medicine, undermines food security, and impedes environmental sustainability. The complexity of AMR requires various stakeholders to contribute to mitigate this challenge. We discuss the critical need for integrating the One

Health framework, transdisciplinarity, and Sustainable Development Goals (SDGs) within AMR education; and demonstrate how these integrations enhance the effectiveness of educational strategies against AMR.

Methods: Through a review of existing literature and analysis of multiple interventions, we synthesize findings from instances where One Health strategies have been applied. We assess their effectiveness in fostering cross-sector collaboration and enhancing health outcomes, thereby providing a grounded framework for developing integrated educational strategies.

Results: Our analysis reveals that AMR education programs incorporating the SDGs and One Health principles are more likely to foster interprofessional collaboration and a deeper understanding of AMR. Case studies demonstrate that such educational approaches significantly improve the preparedness of health professionals in managing AMR through innovative and cooperative approaches. Despite the significant potential of One Health education in impacting global health positively, current interventions lack specific SDG indicators directly related to AMR, suggesting a gap in policy and global health prioritization.

Conclusions: By aligning AMR education with SDGs and One Health, there is an opportunity to enhance global health security. We call for a paradigm shift in educational strategies to effectively combat AMR, advocating for policy reforms and curriculum adjustments to incorporate these integrated approaches. The findings are crucial for educators, policymakers, and healthcare professionals aiming to redesign AMR education to be more comprehensive and globally oriented.

Key messages:

- AMR education integrated with SDGs and One Health enhances interprofessional collaboration and understanding, improving health professionals' preparedness to manage AMR effectively.
- Current AMR educational strategies lack specific SDG indicators; aligning education with SDGs and One Health can significantly boost global health security.

Abstract citation ID: ckae144.136
National early warning systems for emerging AMR in high-income countries: a systematic review

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Background: An urgent need of implementing national surveillance systems for timely detection and reporting of emerging antimicrobial resistance (AMR) was recently advocated by the World Health Organization (WHO). However, public information on existing national early warning systems (EWSs) is often incomplete. Furthermore, when findings are available, understanding these systems is challenging due to different approaches used for data collection, reporting and definitions, with a comprehensive overview on this topic currently lacking. The aim of this study was to map existing EWSs for emerging AMR, focusing on high-income countries, and describe their main characteristics.

Methods: A systematic review was performed on bibliographic databases, and a targeted search was conducted on national websites. Any article, report or webpage describing national EWSs in high-income countries was eligible for inclusion. EWSs were identified considering the emerging AMR reporting WHO framework.

Results: We identified seven national EWSs in 72 high-income countries: two (Australia, Japan) in the East Asia and Pacific Region, three (France, Sweden, United Kingdom) in Europe and Central Asia, and two (United States, Canada) in North America. The systems were established quite recently; in most cases they covered both community and hospital settings, but their main characteristics varied widely across countries in terms of organization and microorganisms under surveillance, with also different definitions of emerging AMR and alert functioning. A formal system assessment was available only in Australia.

Conclusions: A broader implementation and investment of national surveillance systems that allow early detection of emerging AMR is still needed to establish EWSs in countries and regions lacking such capabilities. A more standardized data collection and reporting is also advisable to improve cooperation on a global scale.

Key messages:

- This study provides a synthesis of publicly available information on national EWSs for emerging AMR in high-income countries, highlighting the urgent need for a broader implementation of such systems.
- Main characteristics of EWSs have been outlined, varying widely across countries. Findings could help stakeholders in strengthening current standard national AMR surveillance systems.

Abstract citation ID: ckae144.137
How to analyze multistakeholder collaboration for infectious disease outbreaks: a scoping review

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Introduction: Effective preparedness and response to infectious disease (ID) outbreaks demand collaboration among diverse stakeholders from public health and beyond. However, the organization and roles of stakeholders vary widely across countries and have evolved notably during the COVID-19 pandemic. Novel methodologies are essential to analyze and bolster collaboration in this context. We conducted a scoping review to explore methods utilized for evaluating multistakeholder collaboration in ID outbreak preparedness and response.

Methods: We comprehensively searched scientific and grey literature using keywords such as evaluation of collaboration, stakeholder analysis, (multi)stakeholder/multisectoral collaboration, and network coordination in PubMed, GoogleScholar and Google. Given the limited literature on ID outbreaks, we expanded our scope to include other public health emergencies (PHE) and related fields. Publications were analyzed to discern their aims, fields served, and methodologies employed.

Results: Twenty pertinent publications from Africa, Europe, North America, and Oceania were identified. These publications addressed diverse aims and fields, including stakeholder identification, network mapping in outbreak management and One Health initiatives, enhancing multistakeholder/ multisectoral collaboration for PHE response, primary care partnerships, and evaluating governance of networks in public policy. Methodologies encompassed network analysis, stakeholder mapping, and evaluative frameworks tailored to specific contexts. Common themes included trust-building, shared goals, decision-making processes, and information exchange.

Conclusions: The literature presents varied dimensions crucial for developing methodologies to evaluate multistakeholder collaboration in ID outbreak contexts. These evaluations ultimately will lead to strengthened multisectoral collaboration and coordination, and better preparedness and response for ID outbreaks.

Key messages:

- Effective evaluation methodologies are crucial for enhancing multistakeholder collaboration in infectious disease outbreak preparedness and response worldwide.
- Diverse approaches from various sectors offer valuable insights for developing tailored evaluation methods to assess collaboration in specific public health contexts.

Abstract citation ID: ckae144.138
Autochthonous dengue outbreak in Lombardy, Italy: enhanced surveillance and vector control measures

Giuditta Scardina

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Description of the problem: On 18 August 2023, the first autochthonous case of dengue was registered in Lombardy, in a person living in a village in Lodi province. The case, a man with no history of travels prior to symptoms onset, developed flu-like symptoms on 3 August. After initial suspicion of WNV infection, he was confirmed to have a DENV-1 infection. Following the notification, measures to control the spread of the disease were activated, including alert of healthcare professionals, vector control activities, entomological monitoring and active case finding among household contacts and people living close to the case. Moreover, a serological screening was proposed to population of the entire municipality, along with a survey collecting data about travels abroad and symptoms.

Results: Forty-one confirmed and six probable autochthonous cases were identified. The last case developed symptoms on 20 October. Among confirmed cases, 24 were identified after admission to Emergency Department, 16 through community screening and one at the time of blood donation. 38/41 confirmed cases were symptomatic, with fever, rash and retro-orbital pain being the most common symptoms. Mean age was 55,5 years (3-88), while male: female ratio was 2:1. Hospitalisation was required for 7/41 cases. Community screening was offered from 25 August to 8 October and 416 individuals participated. Among them 10 tested positive for DENV IgG and 27 for DENV IgM (16 were subsequently confirmed as DENV cases, 6 remained probable and 5 were ruled out as non-cases). The primary case of the outbreak was not identified. Vector control activities and entomological monitoring were conducted on 21 August within 200-m radius area around the residence and places visited by index case. Subsequent interventions were conducted in all public areas and sensitive sites of the municipality.

Lessons: Enhancement of surveillance through community screening allowed identification of several additional autochthonous cases.

Key messages:

- Strengthening of surveillance, vector control activities and entomological monitoring is crucial to prevent and control future outbreaks in non-endemic areas with stable presence of Aedes mosquitoes.
- To minimize the risk of introduction and spread of dengue virus in non-endemic areas, it is essential to raise awareness among travellers and general population about preventive and control measures.

Abstract citation ID: ckae144.139
Impact of organisational injustice on health and wellbeing of female police: A meta-ethnography

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Background: Female police officers face more bias, discriminatory treatment, and insufficient support compared to male officers, resulting in poorer health outcomes. This meta-ethnographic review investigates beyond individual responsibilities to explore the dimensions of policing, and their effects on the health and well-being of female police officers.

Methods: The study reviewed qualitative and mixed-method studies (2000-2022) on the health and well-being of female police officers. Ten databases were searched using keywords related to health, wellbeing, women, police, and qualitative study. Twenty-one papers were synthesised, analysed, and interpreted using a seven-phase inductive and interpretative meta-ethnographic approach.

Results: The data analysis unveiled a distinct outcome, indicating a strong correlation and significant impact of organisational injustice on the health and well-being of women in law enforcement. Our research findings imply that organisational injustice, including procedural, relational, distributive, and gendered injustice, notably affects the health and well-being of female officers, with mental health being frequently cited, followed by effects on social, workplace, and physical health. Furthermore, the consequences of these four types of organisational injustice, alongside related cultural, systemic, and structural risk factors, reach beyond the immediate health and well-being of individual female officers. They also hinder various aspects of their professional lives, such as career advancement and maintaining a healthy work-life balance, potentially exacerbating long-term health and well-being issues.

Conclusions: This review emphasizes addressing organisational injustice and related cultural, systemic, and structural determinants in policing for healthier work environments for female officers. Policy makers must scrutinize gender-neutral policies affecting women, enabling transformative action for safer, supportive, and healthier workplaces.

Key messages:

- Organisational injustice in various forms, significantly impact health and wellbeing of female police officers, necessitating policy reforms.
- Addressing organisational injustice embedded in seemingly gender-neutral policies and practices, is vital for ensuring equitable treatment and health promotion of female police officers.

3.D. Round table: Improving equity in health: Understanding and responding to health literacy as a social determinant

Abstract citation ID: ckae144.140

Organised by: EUPHA-HL, -HP, -GH, -DH, -ETH, IUHPE Working Group on Health Literacy, WHO Action Network on Measuring Population and Organizational Health Literacy, TU Munich (Germany)
Chair persons: Don Nutbeam (Australia), Orkan Okan (EUPHA-HL)
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Evidence of a social gradient in health literacy has been found in all reported national population surveys in Europe. This workshop will examine the explanations for this social gradient and explore ways to optimise the contribution that health literacy makes in mediating the causes and effects of established social determinants of health. This will include consideration of practical approaches to improving health literacy in socially disadvantaged populations as a contribution to reducing health inequities within and across European countries. The workshop will explore the concept of critical health literacy and the potential to improve public awareness of and capacity to act on the wider social determinants of health. It will also draw upon existing evidence from interventions that demonstrate the feasibility of improving health literacy among higher-risk and diverse populations. This will include consideration of approaches to improving frontline professional skills and support; approaches to organizational and systems health literacy, working directly with people to develop critical skills in accessing, understanding and applying health information; and ensuring that in public health policy, priority is proportionate to need - reaching and engaging the population groups disproportionately affected by low health literacy. Recognising that research remains underdeveloped and the effects of interventions on health inequity are largely untested, the workshop will also consider where the most important research gaps exist and where future health literacy research should be prioritised. The workshop chair will provide introductory and summary remarks to the workshop. The co-chair will manage the panel discussion and audience participation in the workshop. The individual panel members will make 3-minute introductions to key issues from different perspectives examining the mediating and moderating role of health literacy in addressing the social determinants of health. The panel is made up of individuals from academic and policy roles and at different career stages who can offer complementary perspectives on these issues. Following the presentations, the co-chair will present some follow-up questions to the panel before engaging directly with the workshop participants for an open discussion scheduled to last for 30 minutes of the workshop.

Key messages:

- Improving health literacy is not a panacea for entrenched inequities in health but can help moderate the impact on health of other social determinants and provide an important practical response.
- Public health policy and practice intended to improve health literacy should prioritise reaching and engaging the population groups disproportionately affected by low health literacy.

Speakers/Panelists:
Gill Rowlands
Newcastle University, Newcastle, UK
Stephan Van den Broucke
Université Catholique de Louvain, Louvain-la-Neuve, Belgium
Ana Rita Pedro
NOVA National School of Public Health, Lisbon, Portugal
Christina Dietscher
Austrian Ministry of Health, Vienna, Austria
Susie Sykes
London South Bank University, London, UK

3.E. Scientific session: Environmental Health Tracking Systems: a tool for planetary health

Abstract citation ID: ckae144.141

Organised by: EUPHA-HIA, -ENV, -PHMR, International Network on Public Health and Environment Tracking
Chair persons: Piedad Martin-Olmedo (EUPHA-HIA), Peter Van Den Hazel (EUPHA-ENV)
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Planetary health offers a good framework for better understanding the interconnection between human health and environmental changes, promoting effective cross-sector actions and partnerships, and ensuring policy coherence. Effective implementation of this conceptual framework requires monitoring and reporting on indicators relevant to planetary health that capture the scope, spatial and temporal scales of changes in natural systems that affect human health and well-being. An approach in that sense are the environmental public health tracking systems (EPHT), which imply the ongoing collection, integration, analysis, and interpretation of data at the same spatiotemporal scale about environmental hazards, and related human exposure and health effects, maintaining appropriate data protection measures. It aims to provide public-health decision makers with timely, accurate and systematic data for quantifying health impacts related to environmental factors. EPHT system are proposed as an essential tool for designing and monitoring policies and actions that prevent and reduce environmental health burdens (EHB) efficiently and cost-effectively, and as an alerting system against present and future climatic and health crisis. Pursuing such goals requires the use of health information systems that enable the monitoring and assessing of environmental health in multiple dimensions, considering specificities across different geographical and cultural settings. EPHT system requires defining a rationale on how to select the dimensions and indicators to be included. Common challenges for defining those indicators are related to the availability of data recording, data standardization, and the linkage, integration and sharing of databases. In parallel, it is also important to define a decision aiding tools in which evidence and data are understandable and inform about the extent to which specific policy goals are attained, tailoring such tools to the specific settings. Present session attends to answers to those challenges by sharing experiences from different contexts and countries

Key messages:

- EPHT systems represent an effective tool for progressing in achieving planetary health goals and as a surveillance alerting system for future health crisis.
- Adjusting EH data quality recording and analysis in EPHT systems is essential for improving resources assignment, and the effectiveness of healthy policies in reducing EHB.

Abstract citation ID: ckae144.142
The INPHET- a global approach to Environmental Public Health Tracking

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Environment and health monitoring and information systems are fundamental infrastructure for evidence provision for policy making. The International Network for Public Health and Environment Tracking (INPHET) was formed by a community of environmental public health practitioners to address common interests and activities that advance environmental public health surveillance (EPHS) and data systems, and their uses to inform public health actions. Its main goal is to address the vast inequalities across countries and communities in their ability to monitor, assess, inform and mitigate environmental and health issues. INPHET supports the relevant role of environmental epidemiology as the pillar science providing evidence for decision making and interventions aiming at reducing and preventing environmental related diseases and contributes to an overall vision for public health. As a “Community of Practice”, INPHET focuses on sharing experiences and expertise; addressing common challenges for implementing and enhancing the science of EPHS/tracking; improving understanding of the link between the environment and health; and providing the appropriate evidence that informs public policy. The network, initiated in conference meetings in 2012-13 and formally launched in Modena, Italy in 2014, has carried out several activities which aim at sharing expertise and learning from different models of environmental and health data integration and surveillance systems that directly inform policy. These include Twinning cooperation with Euro-Asian and Balkan countries and sharing of expertise with African Public Health Agencies. Some experiences are presented in this workshop and highlight the EPHS/EPHT model adopted by several national public health agencies. It promotes that such integration and uses of environmental and health data is key for EPHS, including their accessibility and usability for communities of public health researchers, practitioners and policy makers.

Abstract citation ID: ckae144.143
Environmental Public Health Tracking in England- support for Health Impact Assessments

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Environmental epidemiology is a key function for the public health service with regards to investigating the public health effects of environmental hazards, monitoring the public health efforts to control the environmental risks, and providing the evidence that informs decisions making and preparedness. At the United Kingdom Health Security Agency (UKHSA), the Environmental Public Health Tracking (EPHT) Programme, initiated in 2010, has developed a number of data streams to help link environment and health data, to support Health Impact Assessment (HIA). The main aims of the EPHT programme in England are to:

1. Identify populations at risk from exposure to significant environmental and chemical hazards
2. Investigate relationships between hazard and disease
3. Inform public health policy making
4. Optimise intervention and prevention strategies
5. Generate hypotheses for further research.

Such EPHT functions are based on three key components: a) by building a national EPHT program that integrates surveillance of environmental hazards, exposures and related health outcomes, to allow data linkage and assessment of environmental and health information; b) strengthening the epidemiology science, by conducting research and training of the workforce and c) developing strategies for response to immediate risks, incidents and preparing for future risks. Examples to support HIA include a) developing an air pollution exposure surveillance work programme, that has designed a pilot population vulnerability indicator; b) developing indicators for climate change impacts for public health, c) reporting regularly on the health impacts of public fluoridation water supply schemes (as mandated by Government) and d) exploring risk factors associated with elevated blood lead concentration in children, through laboratory reporting to surveillance systems. The talk will highlight some examples of practice and outline how the EPHT programme in England has supported HIA practices.

Abstract citation ID: ckae144.144
EHT and environmental justice at EPA Victoria: Aspirations and regulatory realities

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EPA Victoria (Australia) is a statutory authority that regulates polluting activities and advises other Victorian government departments on relevant policy settings. In 2016, a public health function was installed at EPA Vic to provide emergency health messaging during pollution events, review research evidence of environmental-health relationships and assess industry-contracted health risk assessments of polluting entities. An Environmental Health Tracking Network (EHTN) is under development to support these activities. The EHTN is an agile data and analytical infrastructure for translating expertise across an expanding multidisciplinary network of public health researchers, EPA operational staff and public sector policy makers. Its current interactive dashboards calculate health impacts and associated costs of air pollution scenarios, model land-use influences on land and water contamination and identify coincidences of sociodemographic-, urban environment- and pollution exposure-disadvantage in a high spatial resolution environmental justice (EJ) framework. Regulatory leverage of EHTN intelligence, however, requires legislated EJ thresholds and/or legally tractable costing of industry-externalised human health impacts. Thus, to establish triggers for more stringent conditions on polluting activities and promote equity of interventions and regulations, novel regionally and EJ specific health risk functions are required. Considering these ambitions and challenges, the EHTN at EPA Vic is focussed on 1) identifying and characterising vulnerable populations at high spatial resolution, 2) estimating associated exposure-health effect size modifications using primary epidemiological methods and 3) applying these to health impact and cost assessments of pollution and waste. We seek defensible grounds on which to impose more stringent standards for polluters and redress entrenched social, health and economic disadvantage.

Speakers/Panelists:
Hanna Tolonen
THL, Helsinki, Finland

3.F. Round table: Legal action & capacity building: essential for climate action to protect and promote public health

Abstract citation ID: ckae144.145

Organised by: Aletta Jacobs School of Public Health (Netherlands), ASPHER, EUPHA-ENV, -GH, -HIA, -LAW, Faculty of Public Health (UK), Global Consortium for Climate and Health Education
Chair persons: Laurent Chambaud (France), Mary Codd (Ireland)
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The climate crisis is the single biggest threat to global health, peace and security, a crisis multiplier, and a significant driver of health inequalities within and between countries. In many areas of public health policy, legal action and litigation have delivered significant and long-lasting impacts. Court action is a strong domain of legal policy and practice to address climate change and related air pollution in many countries, and increasingly in international courts and tribunals. Examples include the 2021 landmark UK Coroners Report on the asthma-related death of Ella Kissi-Debrah, the 2023 UN General Assembly Request for an Advisory Opinion from the International Court of Justice on states' obligations to address climate change, and the 2024 European Court of Human Rights decision in Klimanseniorinnen v. Switzerland. Climate litigation also creates opportunities for public scrutiny and debate by raising awareness of inaction or harm caused by governments or private sector polluters, generating wider community mobilisation for action. Since 2021, the EUPHA Law and Public Health Section, Faculty of Public Health (UK), Aletta Jacobs School of Public Health, Global Network for Academic Public Health, ASPHER and other partners have collaborated to build ethicolegal competence and capacity of public health professionals for climate action. Initiatives have also included research, advocacy, and resource development, and exploring opportunities for legal action and litigation, including at the International Conference on Strategic Litigation and Public Health (Liverpool, 2023). The roundtable will present key findings from an evaluation of the course on climate change organised by the ASPHER and the Global Consortium on Health and Climate Education (GCHCE), and learnings and feedback from the publication 'From analysis to action: climate change litigation. A guide for public health professionals', which was launched at the 16th European Public Health Conference. The expert panel will also reflect on whether the nature of current educational materials, means and methods in curriculum and training initiatives are effective, appropriate, adequate, and sufficient. Should climate change be part of One Health and Planetary Health programmes rather than a distinct entity? What is the role of, and what are the opportunities for, public health professionals to be engaged in climate litigation? What are the gaps and opportunities through strategic networking with environmental and legal experts, and affected communities? The roundtable will be interactive and invite input and insights from the participants to explore opportunities to further advance the agenda.

Key messages:

- Public health professionals have a key and increasing role in climate law and litigation: interdisciplinary collaboration is essential.
- Public health professionals have multiple avenues for capacity building on opportunities to address climate and environmental impacts on public health through law.

Speakers/Panelists:
David Patterson
University of Groningen, Groningen, Netherlands
Farhang Tahzib
Faculty of Public Health, Haywards heath, UK
Liz Green
Public Health Wales, Wrexham, UK
Ana-Catarina Pinho-Gomes
University College London, London, UK

3.G. Scientific session: Making WHO European Region the Healthiest Online Environment for children: Restrict harmful marketing

Abstract citation ID: ckae144.146

Organised by: WHO/Europe, EUPHA, Joint Action Prevent Non-Communicable Diseases and Cancer
Chair persons: Kremlin Wickramasinghe (Denmark), Amandine Garde (EUPHA-LAW)
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Children spend a significant amount of their time daily on digital devices using online services. While this can bring many advantages and benefits, it also entails dangers if not the online environment is not effectively regulated. Exposure to marketing of harmful products and services, particularly towards children, remains a pervasive challenge, despite the extensive evidence base documenting its negative impacts. This session will give an overview of integrating behavioural sciences with public health which suggested promising avenues for addressing the complexities of harmful digital marketing to children. Additionally, current tools developed by WHO Regional Office for Europe and Joint Actions, which Member States can use to address novel challenges like brand marketing will be presented. The tools help to map, monitor and regulate the digital marketing exposure of unhealthy foods and brands to children in their country. One focus will be on the need to objective monitoring of marketing exposure to inform policies and ensure that they are fit for purpose.

This is particularly challenging, as traditional monitoring tools struggle to keep up with automated, targeted and personalized advertisements. Due to the complexity to successfully restrict marketing exposure to children, strong collaborations are needed. Collaborative efforts of the Joint Action PreventNCD and the WHO Europe will be presented. Specific goals set by the Joint Action, as well as the importance of a sustainable approach will be highlighted. A discussion on the way forward will focus on how tangible impact can be created in the WHO European Region.

Key messages:

- Need for effective tools to address novel challenges and successfully monitor and regulate harmful marketing to children.
- Need for integration of behavioural science and strong collaborations to create real impact.

Abstract citation ID: ckae144.147
Innovative tools from WHO Europe to protect children from digital marketing of unhealthy products

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Children in the WHO European Region are extensively exposed to marketing of unhealthy products, including tobacco, alcohol, HFSS foods, and gambling, which negatively influences their dietary choices, behaviors, and perceptions of a norm, threatening their health rights. Recognizing the urgency to protect children's developmental potential and rights, WHO has actively addressed this issue both within Europe and globally. In 2010, WHO issued recommendations for Member States on marketing foods and beverages to children. Building on these efforts, the CLICK framework for monitoring digital marketing to children was introduced in 2018. In 2023, WHO released guidelines urging countries to adopt comprehensive, mandatory policies to protect children from HFSS food marketing. Despite political commitments and policies, children and adolescents continue to be exposed to unhealthy product marketing, increasing their risk of NCDs as online activity rises. At the same time, while efforts have focused on restricting specific products, rapid changes in digital marketing strategies necessitate broader measures. Emerging trends include promoting brand loyalty among young children through brand characters and logos. Tools and support are urgently needed to monitor and implement WHO recommendations in online settings, including brand marketing. Despite WHO recommendations, few countries have implemented mandatory policies. Reliable monitoring mechanisms are essential. To address this gap, the WHO Regional Office for Europe developed the KidAd platform to monitor children's exposure to digital advertising.

Abstract citation ID: ckae144.148
Collaborative efforts of the Joint Action PreventNCD and the WHO Europe to protect children from harmful marketing

Maria Joao Gregorio

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Control and counter the effects of advertisements and online marketing is one of the policy actions that will be explored within the JA Prevent NCD that has the overall aim to "reduce the burden of cancer and other NCDs and common risk factors, both at a personal and societal level, and support member states by taking a holistic approach for the prevention of cancer and other NCDs, through coordinated action". The work that will be building on the JA Best-ReMaP sustainability framework recommendations to improve the effective implementation of policies to reduce harmful marketing of unhealthy food, would at the same time comprehensively address also tobacco and alcohol maketing. Thirteen different countries are involved in the work package on regulation and taxation that has the overall objective to "improve compliance, coherence, wider implementation and enforcement of fiscal and regulative measures targeting major NCD-risks factors." This includes a broad range of tasks from mapping existing policies and frameworks, accumulating knowledge on health taxes and fiscal policies, promoting the use of joint nutrient profile models, assessing the impact of labelling on products to create healthier behaviors, supporting the implementation of policies to reduce the impact of harmful marketing, strengthening regulations towards hazardous substances and developing monitoring indicators for policies for prevention of NCD. An overview of the concrete collaborative actions to support the implementation of the marketing regulation will be given: (1) on JA work with the MSs and especially presidency countries, to allow for the discussions on the development of the EU regulation for reduction of the harmful marketing; (2) on the EU stakeholders positions regarding marketing regulation; (3) on the collaborative actions in scaling up the KidAd app. (5) the development of an algorithm to detect alcohol, tobacco and nicotine-containing products will be jointly developed and piloted.

Abstract citation ID: ckae144.149
Leveraging Behavioural Insights to Create Healthier Online Environment for Children

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Issue/Problem: The proliferation of digital marketing poses a significant threat to children's health and well-being, necessitating innovative solutions grounded in cross-disciplinary systems approach.
Description of the problem: Children's exposure to harmful digital marketing is pervasive, influencing their preferences, behaviours, and health outcomes. Traditional regulatory approaches often fall short in addressing the dynamic nature of online advertising, exacerbating the challenge. Without effective interventions, children remain vulnerable to the detrimental effects of marketing for unhealthy products and services, undermining public health efforts.
Results: Integrating behavioural sciences with public health suggests promising avenues for addressing the complexities of harmful digital marketing to children. The WHO KidAd app is a ground-breaking tool designed for objective monitoring of digital marketing. Coupled with evidence-based behavioural strategies such as nudges, choice architecture, and social norms, policymakers can influence decision-making in favour of healthier choices, thereby reducing the impact of harmful marketing. By understanding the decision-making processes and behavioural patterns involved, policymakers can design targeted interventions to mitigate exposure and protect children.
Lessons Learned: The application of behavioural sciences in public health policy-making yields valuable lessons. Firstly, personalized and contextually relevant interventions resonate more effectively with target audiences, enhancing their efficacy. Secondly, leveraging behavioural insights allows for the design of interventions that complement existing regulatory frameworks, filling gaps in enforcement

and compliance. Thirdly, interdisciplinary collaboration between public health experts, policymakers, and behavioural scientists is essential for developing evidence-based strategies tailored to the digital landscape's evolving challenges. [Grant: APVV-22-0587]

Speakers/Panelists:
Amandine Garde
Law & Non-Communicable Diseases Unit, Liverpool, UK

3.H. Scientific session: Advancing Health and Care System Transformation with the THCS Partnership

Abstract citation ID: ckae144.150

Organised by: European Partnership on Transforming Health and Care Systems, EUPHA-HSR, -HTA
Chair persons: Ilmo Keskimäki (Finland), Chiara de Waure (EUPHA-HTA)
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Health and care systems across Europe are facing similar challenges. These include demographic and epidemiological changes, such as growing ageing population and increasing incidence and prevalence of chronic diseases, in addition to diminishing of budgets. These challenges can be met by innovative, evidence-based solutions, the research and development of which can be supported by several ways. The European Partnership on Transforming Health and Care Systems (THCS) is a co-fund action within the Horizon Europe Programme which supports coordinated national and regional research and innovation programs, alongside capacity building, networking, dissemination, and other activities crucial for health and care systems' transformation. The core of THCS's activities lies in funding research and innovation projects through transnational calls, engaging numerous research and innovation funding organisations. In addition to the funding activities, THCS develops several means for supporting the transformation towards sustainable, efficient, resilient, inclusive, innovative, and people-centred health and care systems accessible to all. This workshop aims at discussing on the trends and needs for research, development and innovation and capacity building in the European health and care systems, on leveraging research outcomes for evidence-based strategies and translating research into practice, on transferring and implementing innovative health and care practices, on fostering ecosystems, and on facilitating knowledge exchange and sharing. In the workshop the different means of the THCS partnership to support the transformation of health and care systems are presented and their further development discussed. The workshop consists of five presentations followed by a general discussion.

Key messages:

- Participants will learn about the different means of the THCS partnership to support the transformation of health and care systems.
- Participants can contribute to the further development of the THCS activities by sharing their reflections, opinions, and viewpoints.

Abstract citation ID: ckae144.151
Reviewing and assessing emerging trends and needs for research, development and innovation (RDI) and capacity building in a short, medium and long-term perspective

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An important aim of the Partnership is to identify current and future health services and systems priorities and to identify capacity building and training needs to support RDI activities in health and care systems in the Partnership countries and the EU as a whole. This is being done by means of periodical reviews, among others building on scientific research literature, strategic and policy documents and consultations of stakeholders. At the conference workshop, results of the mapping are presented, with a special focus on priority areas that can contribute to health systems transformation towards sustainable and people-centred health and care systems accessible to all. The session will allow participants provide reflections on and refinements to potential common priorities across national RDI agendas. This will provide direction for future research calls, based on an inventory of priorities that are considered by both policy audiences, research and wider stakeholder communities that should be addressed at EU and national levels.

Abstract citation ID: ckae144.152
Enhancing policy impact: Bridging evidence to action

Cécile Fragny

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The aim of the THCS partnership, regarding bridging evidence to policy, is to develop evidence-based cooperation strategies that enable policymakers in partner countries to base their decisions on validated and reliable knowledge. This approach aims to drive meaningful transformation in our health and care systems collectively. Facilitating knowledge exchange and mutual learning among policymakers is key to achieving this goal. THCS seeks to foster the sharing of experiences, best practices, and lessons learned, and ultimately design tailored tools to ensure policymakers are aware of existing resources and opportunities for effective policy development. During the workshop, the presentation, discussions, and activities will focus on two main issues: identifying who should be considered a policymaker and determining the necessary tools to develop evidence-based strategies. Participants are encouraged to explore how evidence-based strategies can be translated into policy actions and integrated into practice at various levels of the health system, from local to national and European levels.

Abstract citation ID: ckae144.153
Facilitating the transfer and implementation of practices across health and care systems

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The THCS partnership has developed the initial draft of a framework designed to facilitate the transfer and implementation of solutions across health and care systems. During the workshop, we will present this framework along with the preliminary results of its real-world testing in transfer and implementation activities. The goal of this presentation is to gather feedback on the framework and generate ideas for its further development. Choosing to transfer existing solutions rather than developing new ones can offer several advantages in terms of efficiency, reliability, and cost-effectiveness. Adopting existing solutions can save time and reduce development costs significantly. The THCS framework aims to support, promote, and accelerate the transfer and implementation of solutions across health and care systems. The THCS framework is primarily targeted at individuals involved in planning, coordinating, and executing development activities within health and care organizations. This framework includes: 1) Paradigmatic commitments that underpin its understanding of development activities, transferability, and implementation; 2) Principles for conducting the activities of transferring and adapting solutions developed elsewhere; 3) Guidelines for describing original solutions; and 4) Key development tasks that outline the necessary steps for transferring, adapting, and implementing solutions developed elsewhere.

Abstract citation ID: ckae144.154
Strengthening ecosystems

Juha Teperi

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The mission of THCS activities with respect to strengthening ecosystems is based on the understanding that the actual transformation of health and care systems is dependent on the ability of numerous actors to align their goals and actions so that they are complementary. At the same time, it is also true that the transformation takes place at national, regional and local levels, making activities and support at these levels essential for the success of THCS. Therefore, the focus lies on connecting and supporting the broad community and other stakeholders in developing ecosystem-wide approaches and creating awareness and urgency among ecosystem layers and components, thus serving as a platform for transformation. One strand of activities for strengthening ecosystems aims at identifying, analysing, describing and disseminating key learnings from successful transformative ecosystems (TE's). TE's are broad constellations of interacting organisations and people who are committed, and through aligned actions, able to reach joint, explicitly defined goals in long-term. Making not only the most successful TE's but also the dynamics explaining their achievements visible, value is being added through three main routes. Firstly, the experiences are distributed widely on European arenas and platforms as well as through national, regional and local channels to inspire ecosystem building processes in earlier stages of maturity. Secondly, collaboration between identified forerunner ecosystems is supported to enable mutual peer-learning. Thirdly, the examples are used to give guidance and inspiration to consortia that are applying for or receiving THCS project funding. As strategic partners of the ecosystem strengthening activities, other work packages of the THCS programme as well as the THCS National Mirror Groups are of great importance.

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Enabling effective knowledge sharing through a Knowledge Hub

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The objective of the THCS Knowledge Hub is to facilitate and implement effective knowledge sharing and capacity-building activities for the transformation of health and social care systems in Europe, tailored to the users' needs and local context in order to prepare the ground for the transformation of health and social care systems. The Hub acts as personalised and interactive "matchmaking" platform which will allow the potential users to (a) access, provide and search for personalised and tailored resources generated in the THCS community but also beyond, reflecting the local maturity and conditions enabling the transformation of health and social care systems; (b) facilitate a support for the potential adaptation and transferability of these resources across the European health and social care settings through the functional use of THCS Innovation Transferability Framework; (c) enable the policy dialogue and capacity-building support for policy-makers in order to enhance their skills, knowledge and experience in health and social care transformation; (d) access and engage with THCS community of experts and ecosystems in order to maximise the access and use of the exiting knowledge and expertise for the transformation of health and social care systems; (e) signpost to existing evidence and resources related to health and social care transformation to enable effective knowledge sharing (educational webinars, peer review activities, study visits, training workshops), exchange of good practices and experience in transforming health and social care systems.

3.I. Scientific session: Increasing EU preparedness and improving European Vaccination Beyond COVID-19: the EUVABECO approach

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Organised by: University of Crete (Greece), Riga Stradiņš University (Latvia), Sciensano (Belgium), EUPHA-IDC, -GH, EC HaDEA
Chair persons: Elena Petelos (EUPHA-HTA, EUPHA-GH), Georgios Margetidis (Luxembourg)
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This workshop provides a platform for delegates to enhance their understanding of the interdisciplinary approach developed in the European Vaccination Beyond COVID-19 (EUVABECO) project, funded under the European Commission's EU4Health programme. The project is to build and validate implementation plans for EU Member States (MS) to equip them with operational and technical tools to enhance vaccination practices both in routine vaccination and in case of future outbreaks. Validation will be based on innovative practices that emerged in the context of the COVID-19 pandemic. Ultimately, EUVABECO will provide MS with robust implementation plans for common tools to support said innovative vaccination practices, thus, enhancing preparedness and increasing resilience against future health threats in Europe and globally. Guided by two chairs, the workshop is structured around five brief interactive presentations to deliver the conceptualisation, methodologies, and early results and vision for vaccination beyond COVID-19. It is designed to highlight how project activities strengthen resilience and increase preparedness against communicable diseases across the EU and beyond its borders, whilst brokering dialogue on related public health priorities. The presentations will focus on:

1. Preparing for future public health crises by fostering a conducive environment.
2. Enhancing preparedness by developing robust implementation plans.
3. An interdisciplinary approach: Exploring the five dimensions (medical/clinical, social, industrial, modelling and forecasting, and digital) of the tools deployed by EUVABECO.
4. The vital role of stakeholders and of the National Immunization Technical Advisory Groups (NITAGs).
5. Future actions and a call for ongoing support and collaboration in a structured manner.

The session will also give the opportunity to formally present EUVABECO's multistakeholder approach and to formally launch the EU Vaccination Stakeholder Forum, where early access will be granted to EU MS for the various resources generate. This will allow the audience to give input about the needs of the broader public health community involved in vaccination across the EU, for the Stakeholder Forum to effectively promote and support:

- The scaling up of existing implementation plans within MS;
- The development of new implementation plans for additional tools;
- Integration between public health and primary care;
- Inform the targeted interaction with EU and MS bodies involved in related policies and decision-making.

The presentations will be augmented by real-time polling to maximize participant engagement. This approach will maximize interaction whilst eliciting critical insights into stakeholders' knowledge, attitudes, and practices concerning EUVABECO's tools and strategies. This type of engagement will ensure effective knowledge transfer and a comprehensive understanding of the project's objectives and implementation strategies.

Key messages:

- Enhancing vaccination preparedness requires an evidence-based and harmonized set of tools to be deployed across EU MS. EUVABECO will deliver validated implementation plans to achieve this.
- An interdisciplinary approach and multistakeholder engagement are critical for evidence-informed decision-making and harmonization to successfully deploy vaccination initiatives across the EU.

Abstract citation ID: ckae144.157
Preparing for future public health crises by fostering a conducive environment

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Vaccination is considered one of the most cost-effective public health interventions. Zoonotic diseases, which are transmitted from animals to humans, represent an escalating global health concern. Environmental degradation, wildlife trade, and intensified farming practices have disrupted natural ecosystems. This has not only heightened the risk of pathogens crossing species barriers but exacerbated the migrant crisis and deepened global inequalities, as vulnerable populations disproportionally bear the environmental and health burdens. Despite decades of awareness about these risks, the COVID-19 pandemic highlighted our lack of preparedness. At the same time, vaccination hesitancy has been revealed as an important factor in implementing universal vaccination coverage at the population level. Urgency drove innovation. Within months, new multidisciplinary and interdisciplinary approaches were implemented that enhanced our capacity to understand, treat, and protect against the virus. This led to deploying novel technologies, curbing the crisis, and even opening the door to emerging health technologies across a wide spectrum of innovation, from new medicinal products, including vaccines, to evidence synthesis tools, including for modelling and forecasting. Shifting from emergency measures to long-term management of COVID-19, there lies a critical opportunity to strengthen resilience and to increase preparedness against future health threats. The EUVABECO project seeks to harness this momentum by initiating pilot projects that test innovative vaccination tools in evidence-based selected reference practices. These pilots are planned to use suitable theoretical frameworks and consensus meetings to design and develop comprehensive implementation plans that will be shared with EU MS, thereby enhancing Europe's preparedness and response capabilities against communicable diseases.

Abstract citation ID: ckae144.158
Enhancing preparedness by developing robust implementation

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In EUVABECO, a goal is defined as a public health objective that motivates a vaccination practice. A vaccination practice encompasses specific methods or approaches used in vaccination efforts, while a tool refers to a tangible resource or software developed to support the implementation of these practices. EUVABECO is undertaking a series of structured activities from January 2024 until mid-2026. These include mapping innovative practices, deriving requirements for tools and validation plans, developing implementation plans, and facilitating their adoption by European MS. The project will also evaluate, validate, and verify these plans to ensure their efficacy and sustainability. EUVABECO's methodology is informed by the Systems Development Lifecycle (SDLC) framework, utilizing the V-model to ensure a strong linkage between the development and testing phases, thereby guaranteeing a cohesive workflow. Each implementation plan developed will feature comprehensive policy recommendations and a workplan that covers the necessary organizational, technical, legal, and ethical aspects required for the tool's deployment. Additionally, these plans will include tailored strategies to enhance the tool's functionality during outbreaks, criteria for verifying implementation effectiveness, and financial considerations critical for supporting adoption. The implementation plans will undergo a rigorous validation process to assess their suitability, transferability, and sustainability across MS. The ultimate goal is to disseminate validated plans whilst ensuring a parallel multistakeholder engagement approach to ensure MS are actively involved in key project phases, thus, facilitating rapid uptake of said plans across EU MS and a transformation of the vaccination ecosystem across Europe.

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An interdisciplinary approach: Exploring the five dimensions of the tools deployed by EUVABECO

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To effectively address the complexities of vaccination across the EU, EUVABECO's 14 partners are implementing a comprehensive, interdisciplinary approach. Twelve pilot projects will be implemented from September 2024 to August 2025 in six MS (BE, DE, EL, LV, LU, PL, PT). These pilots will test innovative tools across five domains-medical, social, industrial, modelling and forecasting, and digital-to optimize vaccination outcomes:
Medical/Clinical Tool: A decision support system that aids patients and healthcare professionals by providing current, evidence-based information tailored to individuals, thereby facilitating informed vaccination decisions.
Social Tool: Data linkage on an individual level, to enhance the targeting and monitoring of vaccine campaigns, and ensuring equitable access to vaccines, especially for vulnerable populations.
Industrial Tool: An electronic vaccine leaflet that boosts the flexibility and responsiveness of vaccine distribution by offering dynamic, real-time information in local languages to both healthcare providers and patients - regardless of the source and point of use of the vaccine.
Modelling and Forecasting Tool: A disease simulator that models infection dynamics and evaluates the impact of public health interventions, crucial for strategic planning and resource allocation.
Digital Tool: A citizen-held digital vaccination card that enables individuals to maintain a comprehensive, accessible record of their own vaccination histories, enhancing continuity of care across borders.

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The vital role of stakeholders and National Immunization Technical Advisory Groups (NITAGs)

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To successfully implement comprehensive, multidisciplinary and interdisciplinary approaches, collaborative, cross-sectoral policy and strategies are essential. This is critical not only for addressing shared challenges but also for developing effective intervention strategies. One of the main hurdles in any collective action initiative is the ability to galvanize diverse stakeholders, each with their unique set of interests and capacity. EUVABECO is dedicated to conducting pilots, and developing implementation plans that are not only effective but also adaptable and sustainable across various healthcare settings in Europe. The healthcare environments across the pilot countries exhibit considerable variability, including differences in epidemiological trends, immunization information systems, vaccine nomenclature, and the dynamics of collaboration with National Immunization Technical Advisory Groups (NITAGs). Throughout implementation, the cooperation between these diverse stakeholders and NITAGs will be crucial, notably to share local vaccination policies for integration into the Clinical Decision Support (CDS) system. EUVABECO's goal is to craft implementation plans that are flexible enough to be tailored to local needs, ensuring that interventions are both practical and effective in each unique context. This presentation will explore the vital role that stakeholders and NITAGs play in this process, highlighting the importance of their involvement for the success of EUVABECO's initiatives.

Abstract citation ID: ckae144.161
Future actions and a call for ongoing support

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The EUVABECO project is currently piloting a suite of innovative tools, including decision support systems, targeted screening tools, electronic vaccine leaflets, disease simulators, and cross-border vaccination cards. These tools have shown great promise in transforming vaccination practices within individual healthcare settings, contributing to building vaccine confidence and increasing protection against vaccine-preventable infections across the life course. As EUVABECO progresses to the crucial phase of implementing these pilots, active collaboration and sustained support from the multiple actors of the vaccine ecosystem in the implementing countries are essential. To ensure these tools are effectively adapted across different MS, they must be customised to meet local needs and the specific requirements of diverse healthcare environments. This involves integrating feedback from initial deployments. More than just a technical implementation, this phase is about fostering and maintaining robust partnerships with key stakeholders such as healthcare providers, policymakers, and National Immunization Technical Advisory Groups (NITAGs). The success of the EUVABECO project depends on continuous engagement and the sharing of knowledge and resources among all partners involved. This presentation seeks to reinforce the call for ongoing commitment and collaboration from existing stakeholders and to encourage new partners to join this transformative effort. This will foster a more harmonized approach to vaccination policies. Together, we aim to build a more resilient public health infrastructure, enhancing the preparedness and responsiveness to current and future vaccination challenges, ultimately improving resilience to health threats across the European Union.

3.K. Oral presentations: Digital health literacy

Abstract citation ID: ckae144.162
Health literacy in the evolving era of personalised medicine and digital health

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Health literacy is pivotal for advancing public health, empowering individuals to grasp health information and make informed decisions. However, health literacy levels are often influenced by social and economic factors, with lower levels correlating with reduced disease-specific knowledge and underutilization of preventive health services. As healthcare technology rapidly evolves, particularly with the advent of personalised medicine (PM) and novel genetic testing methods, there's an increasing demand for heightened health literacy to effectively navigate these transformative innovations and optimize health outcomes. The European ExACT project aims to assess the understanding of PM and related technologies across the EU. In this context, through a survey conducted in several European countries, including Italy, France, Spain, Poland, the Netherlands, Romania, Hungary, and Germany, demographic data and attitudes towards PM, genetic testing, health portals, and big data were gathered. Logistic regression analysis identified factors influencing knowledge and attitudes. Among 6581 respondents, the results highlight a broad awareness of genetic testing (81%) and health portals (54%) yet a lesser familiarity with PM (48%) and big data (37%). Education level, age, and gender influenced awareness, with Hungary showing significant awareness across all topics (OR 2.09 95%CI 1.46-2.98), Spain excelling in big data (OR 1.88 95%CI 1.55-2.27), and Poland leading in genetic testing knowledge (OR 2.68 95%CI 1.82-3.96). Differences between countries may indicate successful policies and factors that can be replicated. Overall, the study emphasizes the importance of enhancing health literacy and sheds light on the predicting role of sociodemographic factors. It underscores the significance of bolstering health literacy to effectively navigate the advancements in PM and digital health, improving health outcomes in light of these evolving healthcare landscapes.

Key messages:

- In Europe, awareness of personalised medicine, health portals and big data is lacking. Educational initiatives are crucial for effective navigation of innovations, considering regional differences.
- Social and economic factors affect health literacy levels, impacting disease-specific knowledge and healthcare utilization.

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Marketing Harm to Children: Children's exposure to unhealthy commodity marketing using body cameras

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Background: Sophisticated, persuasive and extensive product marketing is a key driver of unhealthy commodity (UHC) consumption. This study aims to identify the nature and extent of children's exposure to UHC marketing.

Methods: The study is a secondary analysis of Kids'Cam, a cross-sectional study in which 168 New Zealand 12-year-old children wore body cameras that automatically captured images of their environment every 7 seconds over four days. Images were analysed for exposure to UHC, Healthy and 'Other' marketing.

Results: Children were exposed to UHC marketing on average 76.2 times/day, nearly 2.5 times their daily exposure to 'Healthy' marketing. Exposure included: unhealthy food marketing (68.4/day), alcohol (5.7/day), gambling (2.1/day) and tobacco marketing (0.1/day). These exposure rates align with the level of statutory regulation each UHC faces in NZ. Food outlets were the most common setting for UHC marketing exposures, while product packaging was the most common medium. Coca-Cola (6.3/day) was the most common UHC exposure, followed by Cadbury, Tip Top, Bluebird and Powerade. Over half of children's unhealthy food (54.9%) and alcohol (51.9%) marketing exposures were attributed to multinational corporations. In contrast, statutory bodies are responsible for almost all (97.4%) of children's gambling marketing exposure.

Conclusions: Children currently grow up in an environment in which they are constantly persuaded to consume products that directly harm their health - an environment in which the profits of corporations are favoured over public health. Statutory regulation of UHC marketing is urgently needed to protect children from harm.

Key messages:

- Children were exposed to unhealthy commodity marketing on average 76.2 times/day, nearly 2.5 times their daily exposure to 'healthy' marketing.
- Statutory regulation of unhealthy commodity marketing is urgently needed to protect children from harm.

Abstract citation ID: ckae144.164
Associations between bedtime media use and sleep outcomes in an adult population-based cohort

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Background: We aimed to extend existing research on associations between bedtime media use and sleep in adults by taking relevant covariates into account and testing hypothesised mediating and moderating pathways.

Methods: Frequency of bedtime media use and sleep outcomes were examined by questionnaire in 4188 adults (59% women, aged 19-94 years) from the Specchio cohort in Geneva, Switzerland. We tested: 1) associations between bedtime media use and sleep (bedtimes, sleep latency, sleep duration, sleep quality, insomnia symptoms, and daytime sleepiness), adjusting for prior sleep, mental health, and health behaviours (physical activity, binge drinking, smoking, total leisure screen time), 2) whether bedtime media use mediates associations between individual susceptibility factors (age, chronotype, and mental health) and sleep, and 3) whether individual susceptibility factors moderate associations between bedtime media use and sleep.

Results: Often using a screen in the 30 minutes before going to sleep at night was associated with a late bedtime (≥midnight; OR [95% CI]=1.90 [1.44, 2.51], $p < 0.001$), short sleep duration (<7 hours; 1.21 [1.01, 1.46], $p < 0.05$), and excessive daytime sleepiness (Epworth score >9; 1.47 [1.25, 1.74], $p < 0.001$) after adjustment for all covariates. Bedtime media use partly mediated the association between younger age and an evening chronotype and these sleep outcomes. Mental health moderated the association between bedtime media use and sleep quality/insomnia, such that the former was associated with poorer sleep quality/insomnia among individuals with better mental health, but not among those with poorer mental health.

Conclusions: Frequent bedtime media use was associated with various sleep outcomes, independently of relevant covariates. Limiting the use of screens at bedtime is important to promote sleep among adults. Individuals with poorer mental health likely require additional support to improve their sleep quality.

Key messages:

- Frequent bedtime media use is associated with a late bedtime, short sleep duration, and more daytime sleepiness in adults, and these associations hold after adjustment for relevant covariates.
- Frequent bedtime media use mediates the association between individual susceptibility factors and sleep outcomes. Mental health moderates the association between bedtime media use and sleep quality.

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The higher education's role in the multisectoral evolution of the diabetes mobile unit programme

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Background: The global prevalence of obesity and diabetes is increasing. Overweight and obesity during early childhood increase the risk of developing type 2 diabetes. The diabetes mobile unit (DMU) programme is a collaborative initiative between the Bahrain Diabetes Society, the Royal College of Surgeons in Ireland (RCSI) Medical University of Bahrain, the Ministry of Education, and other stakeholders.

Objectives: To develop a sustainable educational programme to empower nursing and medical students to educate schoolchildren on healthy lifestyle choices and potentially reduce the risk of obesity and type 2 diabetes.

Results: The DMU programme is incorporated into the undergraduate nursing and medical curricula. It fosters experiential learning in public health education and promotion, encourages trainee-trainer mentorship, and cultivates essential graduate skills, thus enhancing their career prospects. Since 2012, the programme inducted 300 staff and students and educated 7,000 children. In 2023, the programme was re-launched in alignment with RCSI's three strategic pillars: learning and teaching, research, and community engagement. The programme expanded its stakeholders' network and incorporated strategies to promote interprofessional learning among staff, students, and alumni. The outcome of these endeavours included publishing an interactive storybook, creating innovative educational tools, and ongoing research.

Conclusions: This novel programme highlights the role of higher education in promoting multisectoral collaboration for public health awareness initiatives. The key to the programme's success is synchronizing education, research and community engagement in higher education curricula and various contexts.

Key messages:

- Multisectoral collaboration is essential in developing evidence-based and culturally congruent programmes.
- Linking education, research, and community is vital to achieving sustainable development goals.

Abstract citation ID: ckae144.166
Data literacy in healthcare: A systematic collection and evaluation of OERs on data acquisition

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Background: Data literacy is crucial in healthcare, as it allows healthcare professionals to recognize, collect, and use data for research efficiently. Teachers can use open educational resources (OERs) to increase data literacy among healthcare staff, covering the entire research process. This study focuses on examining existing OERs with a focus on data acquisition to identify the limitations of existing OERs and to develop new OERs for data collection based on these limitations.

Methods: The platforms 'Twillo.de', 'Orca.nrw', 'Merlot.org', 'OER Commons', 'Serlo', 'VIMEO', 'Dailymotion', 'SlideShare' and 'YouTube' were systematically searched for OERs focusing on quantitative and qualitative data acquisition. Only OERs published under a Creative Commons license were considered. A team of researchers then analyzed existing OERs with respect to production and content quality and sorted them into four competence levels of a learning objective matrix developed by Schüller (2020).

Results: Out of 4,383 search results, we identified 111 suitable OERs for qualitative data acquisition. Only 9 of these were related to health. For quantitative data acquisition, out of 4,415 search results, 145 suitable OERs were identified, 36 of which were health-related.

Conclusions: This study highlights the scarcity of suitable OERs for healthcare professionals to improve their health data literacy. This is for various reasons. Only a few OERs are specifically designed for healthcare professionals and, therefore, do not correspond to the lifeworld of learners in the explanatory examples. Additionally, the existing OERs are not sufficiently detailed in essential areas for learners and are customized to the competence level of the target group of healthcare professionals. Therefore, existing OERs must be adapted for healthcare professionals' data literacy training.

Key messages:

- The search for OERs on qualitative and quantitative data acquisition yields many results, but less than three percent of the results are suitable for training healthcare personnel.
- Few Open Educational Resources (OERs) for healthcare professionals provide sufficient detail and alignment with their competency levels, which necessitates adaptations for data literacy training.

3.L. Round table: Outcomes from a public debate on the future health priorities of the European Union

Abstract citation ID: ckae144.167

Organised by: European Observatory on Health Systems and Policies
Chair persons: Matthias Wismar (European Observatory), Josep Figueras (European Observatory)
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Objective and background: In the run up to the European elections, the European Observatory on Health Systems and Policies facilitated a public debate on the future health priorities of the European Union. The purpose of the debate was to provide insights to the European Commission on the views of stakeholders and the public health community with regards to the future of the European Health Union (EHU). The EHU was established as a comprehensive health systems and public health response to the COVID-19 pandemic, featuring enhanced budgets, expanded mandates for existing bodies, and the introduction of new entities like the Health Emergency Response Authority (HERA) alongside new strategies.

Methods: The methodology for this comprehensive debate included workshops and plenary sessions at various conferences like the 2023 EUPHA conference in Dublin, an interactive webinar series, and a detailed stakeholder survey featuring both closed and open-ended questions. Data was collected and analyzed using diverse qualitative and quantitative tools, including AI-driven analysis of survey responses.

Preliminary outcomes: Preliminary analysis shows that participants actively engaged in the debate, and mostly expressed support for the EHU's achievements to date. There was a consensus on the significant value added by the EHU, with many advocating for stronger EU action on a range of discussion topics. Stakeholders and the public health community could also relate to the discussion framework designed to guide the public debate, which included nine topics: enhancing health security; addressing the determinants of health through Health in All Policies and Health for All Policies; supporting health system transformation; enhancing the labour market for health and care workers; achieving universal health coverage; implementing digital solutions and AI; improving the performance and resilience of health systems; addressing long-term challenges, such as population ageing or climate change; and strengthening the EU's global voice and leadership. The importance placed on these topics varied among different groups. Young participants prioritized climate-related actions, the public health community emphasized addressing the determinants of health, and policymakers concentrated on issues related to health system resilience, universal coverage, and transformation. Digital solutions and AI were recognized as crucial, but they were typically considered integral and transversal to broader issues rather than standalone priorities. The debate also surfaced priorities not initially included in the discussion framework, such as health promotion, prevention, and equity within health systems, which were repeatedly highlighted.

Key messages:

- The debate on the EU's future health priorities demonstrates that stakeholders and the public health community acknowledge the value of the EHU and would like to see further action to build on it.
- Stakeholders and the public health community have formulated concrete action to take the EHU further.

Speakers/Panelists:
Giada Scarpetti
TU Berlin, Berlin, Germany
Caroline Costongs
EuroHealthNet, Brussels, Belgium
Isabel de La Mata
DG SANTE, European Commission, Luxembourg, Luxembourg

3.M. Skills building seminar: Culture, Arts and Mental Health

Abstract citation ID: ckae144.168

Organised by: EUPHA-PMH, -ENV
Chair persons: Marija Jevtic (EUPHA-ENV), Jutta Lindert (EUPHA-PMH)
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Improving mental health is a challenge, not only for the health sector, so research into innovative ways to improve mental health in the community is necessary. The WHO Regional Office for Europe together with its expert group on the cultural contexts of health and well-being promote a culturally grounded approach to enrich policies related to health and well-being. The cultural contexts of health and well-being argues that incorporating cultural issues into policy-making is critical to the development of adaptive, equitable and sustainable health care systems, and to making general improvements in many areas of population health and well-being. Population health and well-being are influenced by actions external to health care systems, also. By health-in-all-policies approach it is given an understanding of how policies in non-health domains can foster or constrain a culture and art for health. Social prescribing and art-for -health activities are important tool for improvenment mental health. This skils building seminar will discuss some good practice and examples, and also cooperation with experts from cultural sector in the mental health field.

Key messages:

- The innovative concept of cooperation between Culture and Health institutions brought positive experiences and impressions to all participants who used 'culture on prescription'.
- The integration of arts into healthcare and community settings offers a holistic approach to promoting health and fostering well-being.

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Culture for Health – Example from Serbia

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Using the possibility of social prescribing at the community level integrates several sectors, primarily the health sector and the culture sector. The goal of this project was to strengthen intersectoral cooperation (culture and health) and consider the possibility of providing conditions in the local community for continuous prescribing of the culture 'on prescription'. Institute for Public Health of Vojvodina invited Matica Srpska Gallery to participate together with the Novi Sad Healthcare Center in a unique project that connects culture and health. The 'Culture on prescription - culture for health' consisted of two phases: curatorial guidance and group workshops. Curatorial guidance means the selection of individual works of art whose narration is planned and methodologically adapted to different groups of participants and which evokes different feelings related to quality of life and health. The second part of the program consisted of workshops in the Museum, enriched with works of art and a pleasant atmosphere.The workshops are based on group analytical methods and participants had the opportunity to reflect their observations, experiences and feelings on individual works of art, and they often reflected with personal life experiences that were not only aesthetic, but also pleasant and therapeutic. Participants came in two sessions, with two different curatorial guides, carefully thematically prepared, and which were later the source for substantive reflection. The positive outcomes of these innovative workshops was confirmed through written and oral facts, through which the participants emphasized that the stay in the museum space was therapeutic in itself. The possibility of the so-called 'depot' or prolonged effect of the unique prescription was observed, emphasizing that the participation in the workshops left an impression on the participants and that they will stay with a positive feeling and pleasantness after receiving a 'dose' of culture for health.

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Arts and Mental health

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Art includes performing arts, visual arts, literature, culture, and online/digital products. Its interventions are multimodal, combining a variety of activities, such as evoking emotions, emotional and cognitive stimulation, and imagination. Depending on the type of art, they may also involve social interaction, physical activity and communication. There is a large body of research suggesting that art engagement can enhance different dimensions of mental well-being (eudaimonic well-being, life satisfaction, evaluative well - and positive emotions). Some or all of these benefits have been found in individuals who participate in art activities. Based on these findings, art on prescription has been used in some European countries, including the United Kingdom, and Scandinavian countries. Art on prescription is mostly delivered in partnership with art organizations. The aim of this talk is give an overview on art on prescription in different countries in Europe and enhance understanding of the mechanism for whom art on prescription is a promising intervention in the field of mental health. Building on the mapping and review of reviews challenges of art interventions will be discussed such as study design or evaluating effectiveness and identifying population groups for whom art interventions work best.

Abstract citation ID: ckae144.171
Mental Health Arts Festival as a tool for mental health promotion

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Background of the problem: 1 in 4 people experience mental health problems each year, and that number is only growing. Stigma and discrimination of mental health are widespread and affect the quality of life at the individual and societal level. The WHO identifies mental health arts festivals as an effective way to reduce stigma and improve mental health.

Description of the problem: We are not comfortable talking about mental health difficulties and the care we need. Consequently, individuals often withhold personal experiences to shield themselves from potential bias and harsh judgement.

Methodology: The Mental Health Arts Festival (MHAF) Bonds https://www.rysiaifest.lt/, https://www.facebook.com/Rysiaifest) seeks to contribute to the human rights based mental health knowledge creation across the partner organisations, involved communities and audiences, as well as contribute to local creation of artworks on the topic of mental health in open, accessible, safe space where every voice matters. The biannual MHAF brings together recognised artists, arts institutions, scientists, policy makers and communities of people with mental health issues (over 80 events, attracting about 4,500 spectators) for group exhibition, films, contemporary dance and live performances, literary readings, open microphones, followed by discussions and workshops. Qualitative study methodology is applied to assess the potential impacts of the MHAF.

Lessons:

- Visual identity that seeks to challenge existing stigmatising views.
- The festival has become the production or premier place of new artworks on the topics of mental health, spanning addiction, war-related trauma, transgenerational trauma, neurodiversity.

Key messages:

- Mental health arts festivals promote mental health literacy and reduce negative attitudes towards health-seeking behaviour.
- Art festivals should be an integral part of national programs to address stigma and promote mental health and well-being.

3.N. Round table: Health inequalities over life-course between people with & without childhood social care experience

Abstract citation ID: ckae144.172

Organised by: University of Glasgow (UK), EUPHA-CAPH
Chair persons: Mirjam Allik (UK), Sonia Saxena (EUPHA-CAPH)
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The burden of ill health is not carried equally, children and young people with experiences of childhood social care (CSC), e.g. kinship, foster, residential or 'out-of-home' care, are affected by multiple cumulative disadvantages and experience high inequalities in health compared to the rest of the population. CSC, and the adversities often associated with it, are linked to health problems that persist into adulthood and adversely affect education, employment, and the future European society.

Public and policy interest in improving outcomes for CSC recipients has increased markedly, as has research on the association between CSC and life outcomes. But current research is siloed, with limited comparative perspective and has not led to a strong evidence base to inform policy and practice. Wider international networks to connect research, practice and policy are needed to change this. The objective of the workshop is to bring together evidence on health inequalities between people with and without CSC experience across Europe. The panel will set the scene for the discussion by raising questions that stem from their work for the audience to respond. We will ask the audience to engage with these questions based on their experience (e.g. academic, clinical or other professional). The real-time reactions will be collected via Mentimeter during presentations, moderated and fed back to the audience and panel for discussion. This will allow us to collect diverse responses across countries and from different professional perspectives, providing learning and insights for both the panel and audience. The added value of a EUPHA workshop is the high-profile European level attention on this population. A spotlight on CSC experiences bringing together evidence from topic experts and health practitioners committed to improving childhood health inequalities across Europe and will foster a strong foundation for future collaborations and comparative research. The format is interactive and will include an introductory video of lived experiences of CSC to put a human face on this topic. We will then hear 4x5 minute expert presentations from social epidemiologists, health and social care professionals (20m) followed by a moderated discussion with the audience (35m). The presentations cover research across Europe, consider how inequalities accumulate across the life course to place children in care settings and identify where gaps in services fail children. MA sets the scene by asking what the international evidence is telling us about the health of people with CSC experiences. VS explores the accumulation of disadvantage across the life-course and intergenerational experiences of CSC. HF uses the Swedish example to ask why welfare services are not meeting the health needs of children. Finally, SS will consider solutions: what additions support is required for health practitioners dealing with children in care settings and what can/cannot be achieved from within the doctor's office?

Key messages:

- Participants will gain new insights on the health of children with social care experience from each other by sharing evidence and discussing key questions from diverse perspectives across Europe.
- The workshop provides a foundation for participants to build future international networks and comparative research that will lead to a strong evidence base to inform policy and practice.

Abstract citation ID: ckae144.173
Lived experiences: What made or would have made a difference to me when growing up?

Mirjam Allik

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We sometimes forget the people behind the numbers and those affected by our research. The video on lived experiences aims to put a human face on childhood social care ahead of the panel and audience discussion. Rather than asking care experienced people specifically about their health, which people may find intrusive or even irrelevant for their experience, we will seek to understand what did or would have made a difference to their lives. Dr. Allik, who has led and facilitated a number of knowledge exchange and engagement activities related to childhood social care, will take the responsibility of organising the collection different video recordings on lived experienced of childhood social care. We will work in collaboration with already existing organisations that advocate for (care experienced) children's rights to produce the video. Dr. Allik will also be supported by the knowledge exchange team at the UofG, including choosing the appropriate methods of seeking recordings, compiling, and curating the video.

Abstract citation ID: ckae144.174
What does international evidence tell us about the health of people with childhood social care (CSC) experiences?

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International research into the health of people with childhood social care (CSC) experiences has found evidence of worse mental health and emotional-behavioural wellbeing, higher rates of substance use, neurodevelopmental conditions, and avoidable mortality. Lower vaccination rates and worse dental health among those in care has also been reported in few countries. However, research results have been more mixed with regard to some physical health conditions, with higher prevalence of asthma and respiratory ill health among foster children reported in the US but no obvious differences found in the UK. Are there countries where these inequalities are less pronounced, and can we draw such conclusions based on available evidence? When making international comparisons or aiming to give policy advice, we also need to consider the quality of our evidence. Has this been based on small sample sizes or without comparison to other children and adjusting for relevant (socioeconomic) confounders? Most of our current knowledge is also cross-sectional and we do not know if some health conditions precede entry to care and may even be risk-factors for entering social care. Recent longitudinal and cross-sectoral data linkage programmes in many nations (Australia, UK, Canada) have a potential to change this and provide a foundation for evidence-based recommendations for policy and practice.

Abstract citation ID: ckae144.175
What long-term health outcomes can we anticipate for children who have been in social care?

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The concept of cumulative disadvantage suggests that setbacks in one area of life not only lead to further challenges within that domain but also increase vulnerability to adversities across different domains, as highlighted in life course studies. In the context of children with a history of childhood social care (CSC) experience, research consistently shows poorer long-term health outcomes compared to peers without such experiences. This disparity persists into middle age and can affect subsequent generations, underscoring the enduring impact of early-life adversity. Dr Viviane S. Straatmann, a social epidemiologist based in Sweden and enriched by her experience in studying the health and social life of vulnerable children in diverse international settings, will offer insights from life-course and intergenerational epidemiological studies. She will explore the intricate web of disadvantages preceding children's entry into social care, shedding light on the complex interplay between early-life adversity, cumulative disadvantage, and long-term health outcomes. Participants will engage in reflective dialogue on pertinent questions, such as how cumulative disadvantage informs interventions for children with CSC backgrounds, the potential mechanisms underlying the contribution of early-life adversities to long-term health disparities, and the ways intergenerational studies can inform strategies for breaking the cycle of disadvantage.

Abstract citation ID: ckae144.176
What challenges exist within the child welfare system in meeting the health needs of children in care?

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From society's perspective, the goal of societal care is to protect disadvantaged children and provide them with improved opportunities. In the realm of social care, the child welfare system takes the place of parental responsibilities to safeguard children's well-being and developmental needs, including their health. However, while holding child welfare agencies responsible, national legislation often lacks specific methods for fulfilling this mandate. Over the years, evidence has shown that limited health care access and unmet health needs often endure in care. In Sweden, efforts to address the issue include mandatory health assessments upon entry into care and collaborative agreements between social services and health care sectors. However, recent studies reveal that only one-third of children undergo these assessment, and collaborative agreements remain lacking in many local authorities. This suggests that additional legal requirements do not offer a straightforward solution. Dr Forsman, with a background in social work, will discuss the child welfare system's responsibilities and the traditional reliance on social workers and foster carers to address health needs and coordinate care. What are the underlying barriers to successful advocacy and comprehensive health care coordination within the child welfare system? How can the system better respond to the health needs of children in care?

Abstract citation ID: ckae144.177
How can health practitioners support children and young people in social care?

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Health practitioners are responsible for safeguarding, delivering preventive and responsive care for children and young people in social care settings. However, drivers and determinants that place children in care settings lie outside of the doctor's office. In fact, primary care health practitioners often deal with children and young people who face or are at risk of severe neglect, abuse or vulnerability outside the care system. Recent findings from the UK's Millennium cohort study have repeatedly demonstrated that social disadvantage in the early years accounts for more than 2/3 of health inequalities in adolescence. Professor Saxena is a practising GP with 25 years of experience of inner-city primary care and global expert on primary care of children. She will present dilemmas posed in clinical settings for health practitioners and professionals working in a broad range of areas including public health, education settings and social care. What responsibility do health professionals have when they encounter children living in social care settings? What should they be especially alert to? How can they make a difference to reduce health inequality faced by young people growing up in the care system.

3.O. Scientific session: Migrant labour exploitation and health: How can research foster protection of migrant workers?

Abstract citation ID: ckae144.178

Organised by: Bielefeld School of Public Health (Germany), Lancet Migration European Regional Hub
Chair persons: Nora Gottlieb (Germany), Sally Hargreaves (UK)
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Migrant workers sustain essential industries such as the food supply chain, construction, and domestic and care work. They tend to perform onerous and risk-laden tasks at low pay without employment or health protections, and often under exploitative terms (e.g., debt bonding, piecework). Current evidence on associations between migration, employment terms and conditions, and health indicates profound inequities in work-related health outcomes for migrant workers. Although the COVID-19 pandemic highlighted these disparities and their potential social and public health implications, migrant workers continue to be overlooked by public health scholars and policymakers. Supranational regulations (such as EU directives) and national policies rarely consider migrants in their role as workers, and little research is dedicated to questions at the intersection of migration, employment, and health. The invisibility of migrant workers is also a matter of disciplinary and sectoral silos, with different aspects of migrant labour regulated separately by Ministries of Immigration, Labour, Agriculture, Health, and others. These silos create incompatible, context-contingent definitions, terminologies, and administrative categorizations, leading to inconsistent data collection and data gaps which, in turn, translate into policy blind spots. Data that are comparable across contexts and that refer to migration, employment/work and health are generally scarce. For some sectors and contexts, virtually no data exist; e.g., for migrant workers in agriculture, construction, and domestic work, and for migrant workers in low- and middle-income countries. There is barely any evidence about interventions to improve the structures that dictate migrant workers' employment conditions or obligations of employers. Given the limited participatory research with migrant workers, we have a very poor understanding of their views and viable intervention options, and migrant workers' voices thus also remain absent from policymaking. This workshop aims to contribute to greater visibility of - and ultimately action on - migrant labour exploitation in research and policy. To this end, it will map current challenges and shortcomings in generating evidence on the links between migration, work/employment, and health; and it will suggest ways to improve research and interventions to address migrant workers' health, based on the speakers' experience in developing intervention-focused evidence in different contexts. The workshop will conclude with an open discussion to identify further relevant questions and elaborate steps towards better research and greater protections for mobile worker populations.

Key messages:

- Harm from exploitative working conditions among migrant workers is substantial, yet data collection methods and intervention designs are limited.
- For public health research to effectively help protect the health and rights of migrant workers, it is essential to share methods and insights across disciplines to drive research for action.

Abstract citation ID: ckae144.179
Understanding labour exploitation as a social determinant of health in migrant populations – insights from the Danish population-based registers

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Despite recent global events such as the COVID-19 pandemic and the Qatar world cup drawing attention to the significant loss of human lives of labour migrants in precarious working conditions, evidence on the comparative mortality of migrant workers remains sparse and inconsistent. Studying the comparative mortality of migrant workers with local workers is challenging for several reasons. Data on migrants' employment conditions and health outcomes are often incomplete, and when available captured in separate databases. In addition, there is a need to disentangle the healthy migrant effect from the healthy worker effect, which presents challenges in the selection of reference populations and temporality when studying mortality of migrants. In view of such challenges, Denmark provides an ideal context to study labour migration and mortality. The Danish population-based registers offer linked longitudinal data on migrants' employment history and mortality outcomes. Denmark's migrant integration policy also has a history of weaving immigration and labour policies, and migrants in

Denmark continue to be prone to labour exploitation in high-risk industries such as construction and agriculture. This presentation shall use Denmark as a case study to compare the mortality outcomes of migrant workers with Danish workers to better understand labour exploitation as a social determinant of health.

Abstract citation ID: ckae144.180
How do communities define “work precarity” and “labour exploitation”? Lessons for research from participatory research in high economic hardship communities in Chicago, Illinois/USA

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Labour migration has both social and economic drivers that channel workers into jobs that are less desirable to citizens of the receiving countries. Immigrant workers find jobs through contacts from their home countries, including temporary staffing companies. These workers tend to co-locate in segregated communities and coalesce in jobs that entail hard work, low wages, and limited social benefits. As such, labour migration adds a dimension to the structural and social determinants of health (SDOH) that can broaden our understanding of health inequities, and that can point us toward policies and practices to enhance the health and wellbeing of migrant workforces. However, to generate evidence, align interventions with workers’ needs and priorities, and move evidence to action, it is crucial to engage communities. This presentation describes a community-university research partnership that co-investigates the relationship between work and health as experienced at the community level in two high-economic-hardship neighbourhoods in Chicago, Illinois/USA. The academic and practice partners co-developed and tested a conceptual model of the interrelations among migration, work and health, conducted an inventory of local employers, and executed a street-level survey of 497 workers in these two communities. The research findings helped enhance existing models of the structural/social determinants of health and of work precarity, thus informing methodological approaches to measure work precarity, labour exploitation, and their health effects. The community-based participatory research further led to several action-research projects that are ongoing. This presentation will describe the development of the community-university research partnership and its work, the subsequent enhancements made to the worker precarity and SDOH models, and preliminary findings of the partnership’s current action-research projects.

Abstract citation ID: ckae144.181
How can we measure labour exploitation and develop interventions to protect migrant workers’ health? Insights from intervention-focused research on cattle ranching in Brazil and child domestic work in Liberia and Nigeria

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Much of our food and services rely on the work of migrants, which is often carried out under exploitative terms. Exploitative work results in work-related injuries and illnesses and mental ill-health. Yet, the global health community has been negligent in detecting migrant workers in the general population, and in measuring the effects of their work terms on their health. For instance, the International Labour Organization’s global labour force and forced labour surveys capture few health data. Conversely, health surveys, such as the Demographics and Health Survey (DHS), include few questions on exploitative and hazardous work conditions or aspects of migration status. Studies are even more remiss when it comes to developing evidence for work-related health interventions. This presentation will draw on two recent mixed-methods studies - on cattle ranching in the Amazon region of Brazil (Pará State) (n = 1,241), and on child domestic work in Liberia (n = 1,088) and Nigeria (n = 1,088). Findings suggest some necessary improvements to the measurement of migrant labour exploitation and its health effects, and approaches to gathering intervention-focused evidence. Each study highlights the value of re-thinking data collection beyond disciplinary silos and narrow dichotomous measures (e.g., forced/unforced labour), towards generating a more specific understanding of the different dimensions of labour exploitation (e.g., pay conditions, hours, occupational health and safety training and PPE), various types of associated harm, and how they compare across sectors and contexts. Further, each study demonstrates the benefits of intervention-focused research methods that are designed to feed directly into participatory intervention development processes. On this basis, we will suggest shifts in measurement and research designs to foster operationalizable evidence on migrant workers’ working conditions, health, and worker-informed interventions.

3.P. Pitch presentations: Data, assessments, impact

Abstract citation ID: ckae144.182
Comparing Italian hospital discharge and mortality data: implications for epidemiological research

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Background: In Italy, regional governments maintain data warehouses of linked administrative health data (AHD) linked to demographic information including mortality. Legal reporting pathways for death certificate detail bypass the Region, resulting in significant amounts of missing data on cause and location of death in regional AHD warehouses and limiting epidemiological research on mortality and incidence. In this study, we determine for the first time in Italy the degree of agreement between last hospital diagnosis and primary cause of death, and how that agreement changes over time. Previous studies have found agreement ranging from 40% to 60%.

Methods: The COV-CVD cohort is comprised of 7.3 million adults aged 30+ from the Lombardy region of northwest Italy, representing all Lombardy residents registered with the health system as of 31 December 2019. Concordance was assessed using the first three characters of the reported cause of death (ICD-10 codes) and primary diagnosis at last hospitalization (converted from ICD-9CM).

Results: In the COV-CVD cohort there were 401,085 deaths between 1 January 2020 and 23 June 2023. Cause and location of death is missing for 50% and 54% of these deaths, respectively. 60% of deceased individuals had a hospitalization in the year before their death. Agreement between primary diagnosis at last hospitalization and cause of death was 27% overall and 40.5% for deaths in hospital. Missing location of death was reduced from 54% to 26%.

Conclusions: When using AHD from Italy, primary diagnosis at last hospitalization prior to death is not an appropriate proxy for cause of death, even when the death occurred in hospital. Different coding systems (ICD-10, ICD-9CM) further complicate comparisons and definitions in observational studies.

Key messages:

- In Italy, primary diagnosis at last hospitalization before death is not an appropriate proxy for cause of death.
- Poor linkage of mortality and health data limits epidemiological research.

Abstract citation ID: ckae144.183
Impact of primary course COVID-19 vaccination on hospitalizations in Belgium, a Bayesian approach

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Background: The Belgian COVID-19 primary course vaccine rollout was prioritized for individuals aged 18-64 years with underlying health conditions (increased risk of severe COVID-19), over their peers of the same age. This led to a 32-day earlier vaccination of prioritized individuals. In this research, we assessed the impact of vaccine rollout prioritization on hospitalizations for COVID-19 in Belgium between April 1st 2021 and June 30th 2021.

Methods: The sample consisted of the Belgian population aged 18-64 years. Individuals were classified by their priority status according to underlying health conditions and by vaccination status, creating weekly changing cohorts. The hospitalization probability was estimated by cohort using a national COVID-19 hospital surveillance. Two counterfactual scenarios were considered: (1) a no vaccination scenario and (2) a scenario in which the vaccine administration occurred at random in both cohorts (a vaccine rollout without prioritization). We used a Bayesian model to jointly estimate cohort-specific hospitalization probability and scenario outcomes.

Results: Out of the sample of 5,448,534 individuals, 22.65 % was prioritized. By May 1st, vaccination coverage was 18% and 2% within the prioritized and the non-prioritized cohort. In scenario 2, coverage within the prioritized was 6% by May 1st. There were 6968 hospitalizations reported through the hospital survey. Our initial scenario-outcomes indicated a reduction in hospitalizations of 3203 (95%CI[2548;3858]) and 919 (95%CI[406;1433]) by the vaccination prioritization, compared to scenarios 1 and 2, respectively.

Conclusions: This research provides insights in the impact of vaccination in a pandemic context in Belgium. We report a significant reduction in simulated COVID-19 hospitalization by vaccine prioritization compared to at random vaccination and no vaccination at all. Currently, we are investigating the effect of age-dependent vaccination next to at random vaccination.

Key messages:

- The prioritised vaccination campaign in Belgium led to a significant reduction in hospitalizations.
- Prioritisation based on underlying health conditions is an important public health measure.

Abstract citation ID: ckae144.184
Patterns of alcohol use in Belgium, 2013-2020

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Despite numerous efforts worldwide to reduce the harmful effects of alcohol, its impact on health remains significant, contributing significantly to the loss of healthy life years. In Belgium, alcohol use is still a major public health concern, ranking among the highest in alcohol consumption across Europe. This study aims to use available nationally representative data to estimate and evaluate the time trends of alcohol use patterns in Belgium from 2013 to 2018. We used repeated cross-sectional survey data from the Belgian Health Interview Survey (BHIS), which includes self-reported alcohol use and sociodemographic data, to create a time series of annual consumption from 2013 to 2018. This included current and former drinkers, and lifetime abstainers by year, sex, region, and age groups. We applied a Bayesian hierarchical model, using the Integrated Nested Laplace Approximation to create the time series and forecast trends for 2020. In Belgium, the prevalence of current drinking remained at a similar level of 80% from 2013 to 2020, with similar rates observed in the Flemish (FL) and Walloon (WA) regions. However, the Brussels-Capital region (BR) had a slightly lower prevalence of 70%. Trends remained relatively stable across all regions during this period. The national level of former drinkers increased from 5% in 2013 to 8% in 2020, with BR and FL showing similar increases, while WA experienced a decline. Abstainer rates rose from 15% in 2013 to 19% in 2020 nationally, with varying increases in each region. Specifically, abstainer rates in FL increased from 13% to 17% and in WA from 14% to 20%, while BR saw an increase from 19% to 22%. Overall, declining trends were evident, with men exhibiting higher prevalence rates across all categories. Time trends from the BHIS reveal consistent and high use of alcohol in Belgium over 7 years, emphasizing the ongoing public health challenge. Urgent policy interventions are needed to reduce the impact of alcohol on health

Key messages:

- Alcohol use in Belgium is still a pressing public health issue, with high prevalence rates of current drinking in the population. Different patterns of alcohol use can be seen between regions.
- Understanding the role of alcohol on population health as an attributable burden can improve health monitoring.

Abstract citation ID: ckae144.185
Consumption and expenditure of antidepressants and anxiolitycs in 14 European countries

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Background: Since the burden of depressive and anxiety disorders, assessing the use and spending of drugs commonly prescribed for treating such conditions is a valuable barometer of mental health assistance and healthcare services. The current research aims to evaluate the consumption of antidepressants and anxiolytics and the relative expenditure among 14 European countries (Austria, Czech Republic, Finland, Germany, Hungary, Italy, Latvia, Luxembourg, Norway, Portugal, Slovak Republic, Slovenia, Spain and Sweden).

Methods: A retrospective longitudinal study was assessed based on pooled time series analysis of secondary data over ten years (2012-2021). Defined Daily Doses (DDD) per 1,000 inhabitants and health expenditure per capita (current US$, computed on purchasing power parity) were considered. Linear and quadratic trends were calculated for defining relationships between the variables of interest.

Results: Prevailing patterns of consumption and spending show an increase in antidepressants and a decrease in anxiolytics. Noteworthy is the growth slope of antidepressant consumption in three selected countries, Portugal, Spain, and Sweden, by over two and a half times from 2012 to 2021. In addition, for a few countries, there is a pattern contrary to most countries for anxiolytics (Latvia, Spain) and discordant between consumption and expenditure for antidepressants (Austria, Hungary).

Conclusions: The widespread growth of antidepressant use deserves attention. As a public health issue, the prescription and use of antidepressants should be addressed by targeted policies for integrating multifaceted strategies.

Key messages:

- Monitoring consumption and expenditure of antidepressant and anxiolytic drugs represents a valid tool for assessing the efficacy and availability of mental healthcare services among the population.
- The growth in the consumption of antidepressants represents a relevant public health issue and deserves attention for the evaluation of an integrated approach of assistance.

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Measuring laypeople's notions of intersex in the Netherlands and Flanders

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Introduction: In emancipation policy, the 'I' is often added to the LGBTI+-acronym. Yet it is still unknown to what extent this term is known and understood by the general population, and what attitudes toward intersex (people) are. In the current study, we describe the construction and development of the Intersex Knowledge and Attitudes Scale (IKAS), as well as the results from this baseline measurement in the Dutch and Flemish population.

Methods: The IKAS was developed after a carefully documented stepped process of literature scan, expert consultations, and pretesting. A representative sample of 2,003 respondents (1,000 Dutch and 1,003 Flemish) participated in the study. To determine the dimensionality of the scale, we performed EFA and CFA with measurement invariance constraints. We also performed a baseline measurement of knowledge and attitudes towards intersex people in the general population, and determined predictors of attitudes toward intersex people in regression analyses.

Results: Two-thirds of the sample had no (correct) knowledge of the term intersex. Even among the intersex respondents, only one person was aware of the term intersex. The average attitude was moderately positive to neutral. Having a female gender or birth sex, an advanced level of education, lower importance of religion, belonging to a minority group, more tolerant gender beliefs, and preexisting knowledge on the topic all resulted in more positive attitudes.

Conclusions: Both in Flanders and the Netherlands there still is room for improvement in terms of knowledge and attitudes towards intersex people. More knowledge may lead to more understanding, so that intersex people can be more open. Second, it is recommended to challenge beliefs of sex and gender as binary categories, because people who have less issues with people who do not entirely fall in these categories, also have more accepting attitudes toward intersex people.

Key messages:

- It is vital to include intersex in monitoring studies of population attitudes, to be able to genuinely incorporate the 'I' in LGBTI+ in emancipation policies.
- To increase acceptance of intersex people in society, knowledge about intersex in the general population should be expanded, and acceptance of people who do not fit into the binary should be promoted.

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A matter of measurement? Segregation and all-cause mortality in Sweden's three metropolitan regions

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Background: Residential segregation can be operationalized and measured in many ways, along distinct dimensions. There are multiple mechanisms through which segregation and health mutually affect each other. Consequently, contextual health effects of segregation may vary depending on how segregation is measured.

Methods: We used longitudinal Swedish register data to compare associations between local measures of residential segregation (migrant density, migrant isolation, and the mutual information index) and all-cause mortality among the adult migrant and native-born populations in Sweden's three largest metropolitan regions between 2004-2016.

Results: Among migrants, modest positive mortality gradients were observed across measures of migrant density and isolation, where a higher level of segregation was associated with higher risks of all-cause mortality (Q5 RR ranged from 1.08-1.20 across cities and measures). However, these effects were largely attenuated by individual-level socioeconomic factors, and reversed when further controlling for neighborhood economic deprivation (Q5 RR ranged from 0.74-0.87). Among the native-born, a positive gradient for mortality was found (Q5 RR ranged from 1.31-1.45), although this was reduced when accounting for neighborhood deprivation (Q5 RR ranged from 1.01 -1.11). For both migrants and the native-born, the mutual information index showed no clear association with mortality, although a mortality advantage is observed for migrants in the most segregated areas after individual and neighborhood level adjustments (Q5 RR ranged from 0.73-0.86).

Conclusions: Our findings show that the manner in which residential segregation is conceptualized and operationalized alters associations with health. However, individual and other contextual level confounders are important determinants which influences the patterns. Much of the negative health effects of residential segregation can be perceived through the lack of economic opportunities.

Key messages:

- Associations between segregation and all-cause mortality depends on how segregation is conceptualized and measured.
- The mortality disadvantage observed in local areas with high migrant density may be attributed to the lack of economic opportunities in the neighborhood.

3.Q. Pitch presentations: Health workforce, patient safety

Abstract citation ID: ckae144.188
Development and validation of a questionnaire to evaluate Students Learning Needs using XR Technology

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Background: Extended Reality (XR) technology intends to combine or mirror the physical world, including innovative tools that can be applied in education increasing students' engagement, improving comprehension, and leading to better outcomes. Under the umbrella of the PedXR project about an Extended Reality Learning Framework for Pediatric Nursing students in Higher Education (Erasmus +- 2023-1-EL01-KA220-HED-000161808), a survey was conducted aiming to validate a questionnaire to evaluate Students' Learning Needs using XR technology (SLN-PedXR).

Methods: The questionnaire was developed by item generation through a literature review. The SLN-PedXR was validated in terms of content validity through PedXR Consortium (EL, CY, BE, BG) reviews. The psychometric properties of the final instrument were assessed in a sample of 106 nursing students of the Faculty of Nursing, University of Athens, Greece.

Results: The findings demonstrate high internal consistency (Cronbach's alpha = .877). Principal component analysis was conducted to reduce dimensions and establish construct validity and internal consistency of the developed questionnaire. Following pilot-testing and consortium review, the final validated questionnaire consists of 45 items divided into 3 subcategories (current learning needs satisfaction, preferable learning modules, XR development).

Conclusions: The SLN-PedXR is a valid and reliable tool for evaluating students' learning needs using XR technology.

Key messages:

- In the rapidly evolving landscape of technological advancements, educational institutions must integrate innovative learning tools into their curricula.
- The discernment of students' learning needs and the formulation of tailored modules stand as pivotal determinants to optimize educational outcomes particularly within the domain of nursing education.

Abstract citation ID: ckae144.189
The Critical Role of Perceived Academic Institutional Support among Students in a Divided Society

Carmit Satran

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Background: To promote health equity, nursing schools must foster student diversity and develop future nurses' abilities to care for patients from different backgrounds. Although academic experiences play an essential role in promoting multiculturalism, in Israel, where the Jewish-Arab divide is deep and central, this could be challenging. This study examined the attitudes of Israeli Jewish and Arab nursing students concerning their interactions across group lines.

Methods: In December 2022, 362 undergraduate students completed a survey on the association between cultural intelligence (CQ), satisfaction with the college's support, and intergroup social interaction.

Results: The findings revealed that (1) Arab students (minority group) demonstrated higher CQ, especially regarding awareness of cultural differences and motivation for intercultural encounters; (2) Arab students perceived the intergroup encounter with Jewish students as closer and warmer than Jewish students; (3) Arab students' satisfaction with the college's support was higher than that of Jewish students; (4) Structural Equation Modeling revealed that ($\chi2/df=1.61$, CFI=.970, TLI=.955, NFI=.927, RMSEA=.041) the support provided by the educational academic setting serves as a primary explanatory factor in the association between CQ and social distance.

Conclusions: Educational institutions should ensure their students feel supported to facilitate closer social interactions. This emphasizes the importance of proactive measures to encourage diversity and cultural competence in nursing education. Such efforts may positively impact the students' mental health and enhance patient care.

Key messages:

- To foster student social interaction in divided societies, academia must ensure a high sense of support.
- Proactive nursing education promoting diversity and cultural competence may benefit student mental health and patient care.

Abstract citation ID: ckae144.190
Balancing public health and public safety: a situational analysis of a substance use pathway

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Background: Public health solutions to substance use harms are of interest across Europe, where the level of health need among detainee populations is broadly consistent. A need for multiagency working is widely recognised, as well as role changes with a view to the police engaging in health generating activity, as part of the wider public health workforce. This qualitative study explores the prospect for a multiagency, public health pathway in an English county district. This involved multiagency working across the community and custody settings.

Methods: 25 semi-structured interviews with senior and frontline staff of diverse agencies involved in pathway development, including public health, police, treatment providers and the NHS. A 'frame-critical' situational analysis sought to understand the strengths, weaknesses, opportunities and threats presented by the pathway. Data were organised into themes.

Results: Three themes highlighted the challenges and opportunities for addressing substance use harms via multiagency collaboration across the community and custody settings. The themes highlighted how 1) agencies' shared commitment to public health was unsettled by subtle differences on the meaning of prevention; 2) community police were more accepting of new health activity than custody police; 3) a trade-off impeded a proactive approach: the need for substance worker capacity to support police in the custody suite (a reactive approach) meant that limited community outreach was possible, despite opportunities for preventative community work involving substance workers and community police.

Conclusions: Public health solutions are challenging to develop in a context of contrasting understandings of 'public health', unclear national policy and resource constraints. The design of multiagency public health pathways must be participatory and inclusive to ensure staff buy-in: in particular, new health activities need to align with police staff's sense of role congruence.

Key messages:

- Multiagency public health collaborations should start by establishing a shared understanding of what 'public health' and 'prevention' mean.
- A long-term perspective on training and motivational alignment (e.g., via feedback) is necessary to implement health-related activity among custody police staff.

Abstract citation ID: ckae144.191
Enhancing digital health competencies: insights from european human resources for health

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Background: Mixed-skills for digital health transformation are critical for human resources for health (HRH). This study aimed to inform the design of new training programmes that address soft, hard and digital health skills.

Methods: Using a mixed-methods design science approach, focus groups were conducted by invitation and with informed consent, online or in-person. A script was prepared with key questions for orientation and facilitation, addressing the topics of current situation, desired situation, desired skills, practical and organisational needs to implement continuous training in healthcare. The collected data were analysed using Nvivo.

Results: Focus groups (14) had 87 participants (Norway, Latvia, Belgium, Italy and Portugal): 26 healthcare professionals (nurses, midwives, nutritionists, pharmacists, assistants and doctors); 27 managers or directors of hospitals and care centres; 34 experts (digital health specialists, researchers, technical officers, members of professional societies and national authorities). Real needs were identified, with 2 direct sub-themes that were best related to each other (Pearson coefficient, $p > 0.40$ - cluster analysis):

1. 'Current situation': Cybersecurity (eg. privacy, law and ethics); Time (work time versus private time, $p = 0.69$); Type (informal versus formal training, $p = 0.32$); Programmes (graduation, continuing education and post-graduation levels).

2. 'Desired situation: Desired skills (eg. digital - basic ICT, data analysis, soft - communication, emotional intelligence, and hard skills - medication administration, catheters, ECG, vital signs, telehealth - digital stethoscope); Learning design and objectives (eg. collective learning, simulations, location - peer-to-peer and hybrid); Emergency care and the link between primary and secondary levels of care were considered important.

Conclusions: These findings of convergence among HRH inform Program design process to support the training programs and course syllabus design.

Key messages:

- The identified needs and priorities inform Program design further to support Digital Health Transformation training programs and course syllabus design.
- Real needs points to Current and Desired situation, where HRH give important insights that need to be considered to engage people to perform training courses.

Abstract citation ID: ckae144.192
Empowering Educators: Italian Nurses' Knowledge, Attitudes, Practices, and Vaccine Hesitancy

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Background: Vaccine hesitancy (VH) among healthcare workers is a prevalent global phenomenon and a public health concern. The study aims were i) identifying knowledge, attitudes, and practices (KAP); ii) estimating the prevalence of VH regarding recommended vaccines for healthcare workers (HWs).

Methods: Multicenter cross-sectional study of an Italian sample of nurses and nursing students. Following a systematic review (PROSPERO ID:CRD42020212252), a validated questionnaire was used (Cronbach's alpha=0.82). Two multivariable logistic regression model were built to identify predictors of (1) VH to the recommended vaccine for HWs; (2) acceptance of the fourth COVID-19 vaccine dose.

Results: 226 participants were enrolled (169 nurses; 57 students). Regarding KAP: only four nurses (1.8%) had adequate knowledge among vaccine recommended for HWs, whereas 30% ($N = 66$) reported never having recommended vaccinations during clinical practice. 106 (46%) nurses/students reported VH for at least one of the vaccines recommended for HWs - high levels of VH were recorded for influenza vaccination ($N = 88$,38.9%) and fourth COVID-19 vaccine dose ($N = 100$,44.3%). At the multivariable analysis, (1) significant associations with highest levels of VH were found for nurses who reported having at least one child (OR:5.42, 95%CI: 1.64-17.89) and who had not received any dose of influenza vaccination in the last 5 years (OR:13.25, 95%CI: 5.29-33.16). Lowest odds of VH was found for nurses employed in Primary Health Care (OR:0.17, 95%CI: 0.03-0.98); (2) routinely recommending vaccinations during practice (OR:0.38, 95% CI: 0.15-0.95) was associated with acceptance of fourth COVID-19 vaccine dose. Conversely, reliance on social media as the primary information source seemed to be a predictor of COVID-19 vaccine refusal (OR:2.05 95% CI: 1.31-3.20).

Conclusions: Preliminary results identified predictors of VH among nurses, offering insights for organizations to effectively tailor public health interventions.

Key messages:

- High levels of vaccine hesitancy among nurses towards recommended vaccines for healthcare workers pose a threat to patient safety.
- Empowering 'educators' through focused public health interventions is essential to address factors contributing to vaccine hesitancy among healthcare workers.

Abstract citation ID: ckae144.193

International and intercultural training on the use of Art Therapy for Dementia Care

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In 2023 more than 55 million people had dementia worldwide, with nearly 10 million new cases every year. Currently art therapy has been widely adopted in the assistance of people with dementia because of the positive outcomes in terms of reducing depressive and behavioural symptoms and of improving the patients' overall quality of life. In literature there was a knowledge gap on social and health professionals' training for being able to effectively use art therapy in relation with different origins of people with dementia in a multiethnic world. This research aimed to assess the impact of promoting joint international and intercultural training session for social workers and health professionals' students. The used methodology was a prospective research-intervention study with the conductions of two seasonal schools (Florence - Italy in July and Ankara - Tukey in October 2023) on the use of art therapy in the different stages of dementia disease within the Erasmus+ Project DementiaCare (2021-1-TR01-KA220-HED-000027648). Each seasonal school was attended by 25 students from Italy (5), Portugal (5), Slovenia (5), and Turkey (10) to ensure an international and intercultural approach. Pre- and post- test results showed the increased knowledge of students on the theoretical notions on dementia care and art therapy. Positive opinion on the projects developed by mixed group of students (with representants of the 5 involved universities) manifested the enforcement of their relational competences and skills mutually adapting their way of doing and communication register to the multi-ethnic and multi-cultural group's needs. Evidence showed how mutual knowledge among social and health professionals with different cultures and their joint training allowed these professionals to be able to provide an integrated and effective assistance to every patient with dementia, personalizing assistance according with their different traditions and historical memories.

Key messages:

- Art therapy has been adopted as non-pharmacological approach in dementia care to mitigate progression of symptoms' severity, serving as alternative tool for self-expression for patients.
- Conducting joint international and intercultural training sessions for social and health professionals in art therapy enabled them to develop a respectful, multi-ethical approach to dementia care.

Abstract citation ID: ckae144.194

Primary care nurses' readiness to promote digital health technology use among patients

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Background: Digital health technologies (DHTs) aim to optimise resource allocation and improve public health outcomes as care supplements. However, many patients do not access them independently. Nurses, as central contacts for primary care patients, can integrate digital health assessments, patient portals, remote monitoring, and teleconsultations into practice. Insight into their readiness to promote patients' use of DHTs is important for efficient dissemination strategies. We examined nurses' referral of patients to use DHTs and whether digital dedication (enthusiasm, inspiration, and pride for DHTs) and service guidance skills were associated with referral behaviour.

Methods: In spring 2023, the national '2023 survey on information systems for registered nurses' gathered data from 549 nurses in Finnish primary care, comprising registered nurses (62%) and public health nurses (38%). The outcome, frequency of nurses' DHT referrals, was assessed on a scale ranging from never to daily. We used multivariable ordinal logistic regression to examine associations, adjusted for career length, unit, and location.

Results: Among the nurses, 31% never or seldom referred patients to DHTs, while 19% did so monthly, 32% weekly, and 18% daily. Multivariable model showed that with each one-point increase in digital dedication (scale 1-5), the odds of referring patients to DHTs more frequently increased by 43% (OR = 1.43, 95% CI 1.21-1.70). Nurses who rated their service guidance skills as good (OR = 1.76, 1.01-3.05) or excellent (OR = 2.89, 1.28-6.62) had greater odds of referring patients to DHTs more frequently compared to those with less advanced skills.

Conclusions: Referring patients to DHTs is not a common practice for primary care nurses and can undermine care equity. Nurses' motivation and knowledge about DHTs should be fostered, which may enhance patient referrals. Developing guidelines to assess patients' digital capability and needs for effective service coordination is paramount.

Key messages:

- Digitally committed and service-aware primary care nurses may refer patients to use DHTs more often than their peers, but we could not consider if suitable DHTs were available for patients encountered.
- Nurses should be motivated to use digital tools and provided with instructions for proficiently coordinating services in order to address patients' underutilisation of DHTs and promote equitable care.

4.A. Skills building seminar: Waves of community health engagement and governance: innovating through a design-as-policy approach

Abstract citation ID: ckae144.195

Organised by: EUPHA-PHPP, European Observatory on Health Systems and Policies, Portuguese National Health Council (Portugal)
Chair persons: Marleen Bekker (EUPHA-PHPP), Dheepa Rajan (Belgium)
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In this workshop we will engage our participants in a practice oriented exercise to experiment with a collaborative design-as-policy approach for a community health action plan. The exercise will be based on the lessons learned in two large evaluation projects: 1) an

8-year evaluation of the Dutch All about Health (AaH) platform of social health initiatives on the local, regional and national level; and 2) a comparative multiple case study, including Portugal, building a framework for sustainable citizen engagement, published in the WHO Handbook ‘Voice, Agency, Empowerment: The Handbook on Social Participation for UHC’. Both projects show striking similarities in findings, and developed guidance for devising collaborative action through (a) the use of community platforms, (b) concrete engagement mechanisms and (c) mediating civil society organizations. These will be brought together in a Guidance Tool that participants will work with in the exercise. The aim of the tool is to support initiatives to bring together both top-down participatory efforts and bottom-up grassroots movements in order to anchor community and minority voices into policy decision-making for a more level playing field for policy influence. The aim of the workshop is to let participants experiment with the Guidance Tool and develop collaborative design-as-policy skills.

The outline of the skills building exercise: 1. Group introductions using Mentimeter and invitation to pick a particular complex health issue from participants’ own work or community setting (5 mins). 2. Three pitches on the projects, the Portugal case and the Guidance Tool (10 mins). 3. Exercise instructions (5 mins). 4. Exercise (35 mins) a. Upon room entrance participants receive a colored badge based on their professional background: public health professional/practitioner, community resident, researcher or policymaker; b. Form small sub groups of 6-8 participants with different backgrounds (2 mins); c. Introduce with key words on paper their respective complex community health issues and sub group jointly selects one issue for which most information and experience is present (6 mins); d. First round in duos within sub group: participants work through the guidance steps to an initial idea for the collaborative action approach consisting of a community platform, engagement mechanisms, and mediating civil society organizations, drawn out on paper (10 mins); e. Second round in duos within the sub group: duos review another duos initial design idea and conduct an intuitive SWOT analysis of feasibility, acceptability, and practicability (8 mins); f. Third round in sub group: compare the three proposals in SWOT perspective, select the most salient one, and improve with strong elements from other proposals (8 mins); g. Summarize in key words the final proposal and enter into Mentimeter. 5. Plenary wrap up using Mentimeter: select the winning proposal, and evaluate the exercise (5 mins).

Key messages:

- Collaborative action is enhanced considerably through (a) the use of community platforms, (b) concrete engagement mechanisms and (c) mediating civil society organizations.
- The Guidance Tool offers concrete steps for designing a reflexive and adaptive structure and process for community collaborative action and self-governance.

Speakers/Panelists:

Marleen Bekker
Wageningen University & Research, Wageningen, Netherlands
Dheepa Rajan
WHO, Brussels, Belgium
Goncalo Figueiredo Augusto
National Health Council, Lisbon, Portugal

4.B. Round table: Closing the loop in the European Health Data Space: relation between primary and secondary data use

Abstract citation ID: ckae144.196

Organised by: EIT Health
Chair persons: Cristina Chiotan (Belgium), Monica Åberg Yngwe (Sweden)
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Currently, data collection processes in healthcare institutions across Europe remain exclusively geared towards the needs of primary use. Neither medical professionals’ clinical workflows, nor the data infrastructures and data management processes established within different organisations allow for the kind of highly standardised and structured data collection, processing and segregation from operational systems that secondary use requires. The development of a European Health Data Space offers large possibilities for research and innovation. High quality or primary data and secure pathways are required for the secondary use of data. Closing the loop and making relevant information from secondary use of data available to clinicians and health care professionals is a crucial step to build trust and enable a cultural shift that will enable health innovations and targeted treatments reach all those who could benefit from them without delay. Closing the loop between primary and secondary use of data will accelerate the shift from treatment of illness to prediction and prevention in the way healthcare is delivered - a shift that will need to be accompanied by an overhaul of European health systems’ current funding and reimbursement models. Establishing trustworthy sources of information and guidance for the use of novel health technologies, as well as involving patients and their caregivers early in the development of concrete applications, could help to foster better understanding and build trust in this area. To ensure acceptance, it will be particularly important for these developments to be driven by identified problems and defined needs in healthcare. Efforts should be made to address and include all parts of the population, not just the highly engaged and usually highly educated patients who typically participate in collaborative initiatives. The workshop will provide a holistic understanding of the interconnectedness between primary data and secondary use of health data. High quality of data and secure pathways are required for the secondary use of data. The workshop will explore paths for the evaluation of data-driven innovation and its introduction into clinical pathways that need to be further developed and standardised across the EU and the role that different actors in the health data system must play to meet the needs for secure and high-quality of data for research and policy development. The importance of actors like healthcare professionals, patients and citizens as well as the role of industry, public-private partnerships and relevance of health data innovative solutions will be addressed by each of the panellists and collaboration pathways for closing the loop will be further explored. The discussion will use and build on the findings and solutions identified in the EIT Health Think Tank report ‘Implementing the EHDS across Europe’.

Key messages:

- In order to move to a data sharing environment, a cultural shift is needed to foster an environment of equality and openness to share data.

- Healthcare professionals, patients and citizens are active participants and public-private partnerships could be instrumental to foster novel solutions and trust in this cultural transformation.

Speakers/Panelists:
Nienke Schutte
Sciensano, Brussels, Belgium
Milana Trucl
European Patient Forum, Etterbeek, Belgium
Sinead O'Connor
Trinity College Dublin, Dublin, Ireland
Aneta Tyszkiewicz
EFPIA, Brussels, Belgium
Elina Drakvik
Sitra, Helsinki, Finland

4.C. Scientific session: Navigating through complex challenges of responding to outbreaks of multidrug-resistant organisms

Abstract citation ID: ckae144.197

Organised by: RIVM (Netherlands)
Chair persons: Aura Timen (Netherlands)
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Antimicrobial resistance is one of the top ten global public health threats according to the WHO, contributing to millions of deaths each year. While outbreaks of multidrug-resistant organisms (MDROs) are well studied in hospital and nursing home settings, knowledge gaps exist concerning the complex challenges of outbreaks of MDROs among vulnerable patient populations, such as patients with intellectual disabilities or elderly patients living longer at home with multiple comorbidities. The coordination of such outbreaks requires a multidisciplinary approach as these patients often receive care throughout different healthcare settings, including long-term care and home-based nursing care. We delve into the complexities of coordinating an MDRO outbreak response involving healthcare professionals from various healthcare settings. The challenges inherent to the coordination of multidisciplinary involvement and the use of innovative strategies for outbreak preparedness and surveillance, will be thoroughly examined based on scientific evidence and practice based experiences.

Workshop objectives:

- To exchange experiences on managing cross-institutional outbreaks of MDROs
- To foster deeper understanding of the complexities of multidisciplinary involvement during MDRO outbreaks among vulnerable patient populations

The workshop structure:

- A brief introduction will be provided on the generic challenges in providing long-term care to vulnerable patient populations carrying MDROs. We will subsequently illustrate potential challenges faced during a cross-institutional MDRO outbreak among these patients through a realistic scenario (5 min): A patient with severe intellectual and physical disabilities living in both a long-term care facility as well as with family at home, unexpectedly turns out to be carrying an MDRO after recent hospital admission. As the patient receives nursing care from both from family members and nursing staff in different healthcare settings, a cross-institutional MDRO outbreak has occurred requiring a coordinated response.

- Hereafter, individual presenters will address evidence- and experience-based challenges faced in MDRO outbreak responses within the specific healthcare settings covered in the previously presented scenario. We will navigate through the scenario together with the participants, discussing practical and ethical dilemmas, and explore ways for containing the MDRO outbreak while maintaining effective and compassionate healthcare delivery. In addition, we will discuss the use of public health innovations, such as social network analysis as a basis for the development of a stress test exercise to improve preparedness for MDRO outbreaks, and the role of wastewater surveillance in MDRO outbreaks. Discussions will be facilitated by (online) voting tools to invite participants to exchange experiences (40 min).

We conclude with an exciting quiz to summarize the key messages of this workshop (10 min).

Key messages:

- Healthcare setting, knowledge, proportionality and well-being of vulnerable patients populations are important to acknowledge during cross-institutional MDRO outbreaks.
- Novel stress test exercise and wastewater surveillance are potential methods to improve preparedness and surveillance, respectively, during cross-institutional MDRO outbreak responses.

Abstract citation ID: ckae144.198

Home-based nursing care: what do we know about multidrug-resistant organisms in this setting?

Tessa Langeveld

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Background: The burden and complexity of home-based nursing care have intensified due to earlier discharges from hospitals and patients living longer at home with increasing co-morbidities. This growing population of vulnerable patients, combined with the worldwide increase in the prevalence of multidrug-resistant organisms (MDROs), poses a new burden on home-based nursing staff. Home-based nursing care differs significantly from hospitals and nursing homes, challenging implementation of infection prevention and control (IPC) measures. It is therefore important to gain insight into the attitudes, experiences and needs of home-based nursing staff. Also, to better understand the scope of MDRO carriage and transmission in this setting, including its challenges.

Methods: Cross-sectional studies were conducted in the Netherlands including a survey and focusgroup study among home-based nursing staff, supplemented by a report of cases of MDRO clusters.

Results: We have identified several factors adding to the complexity of responding to an MDRO outbreak with involvement of home-based nursing care. First, inapplicable recommendations in guidelines/protocols or from infection preventionists, often aimed at intramural care. Second, nursing staff questioned the proportionality of IPC measures, potentially influenced by behaviour of colleagues and patients. Third, inadequate information transfers about patients carrying MDROs. Fourth, uncertainty about the roles and responsibilities of involved healthcare professionals. Finally, the need for organisational support in providing education and sufficient resources, and clarity about financial aspects.

Conclusions: Insights from these studies have aided in aligning upcoming MDRO guidelines for home-based nursing care in the Netherlands, which factor in the above mentioned complexity. Furthermore, these findings can aid in future strategies to prevent or respond early in MDRO outbreaks with involvement of home-based nursing care.

Abstract citation ID: ckae144.199
Long-term care facilities: what do we know about multidrug-resistant organisms in this setting?

Soemeja Hidad-Nuh

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Background: People with intellectual disabilities (ID) are an often overlooked high-risk group for health-related issues. In the Netherlands, people with ID may reside at home, in small communities, or within long-term care facilities. This diverse living arrangement challenges the healthcare system, with responsibilities spread among multiple formal and informal caregivers. During an outbreak with multidrug-resistant organisms (MDROs), coordinated efforts should be made to prevent further spread throughout all healthcare settings. Therefore, adequate infection prevention and control (IPC) practices, are required to improve or maintain individual health outcomes. To understand the complexity of MDROs in long-term care for people with ID, it is important to gain insight into knowledge, attitudes and perceptions of involved healthcare professionals and, investigate innovative strategies that could play a role in surveillance or monitoring an outbreak within this setting.

Methods: We conduct several studies in long-term care for people with ID, using a wide scale of methodologies including a cross-sectional survey study and innovative quantitative methods, such as wastewater surveillance.

Results: We have identified several challenges in long-term care for people with ID related to IPC and MDROs. First, while IPC and MDRO guidelines exist, they lack specific context and applicability to the long-term care setting. Second, proper use of hand gloves among healthcare professionals demands increased attention as knowledge about this preventive measure seems to be insufficient. Finally, given the challenges in sample collection for MDRO screening, non-invasive strategies are needed to offer insight during outbreaks, serving surveillance or outbreak management purposes.

Conclusions: Insights from these studies could inform future strategies to prevent or respond early in case of an MDRO outbreak within long-term care for people with ID.

Abstract citation ID: ckae144.200
Preparedness for and collaboration during regional outbreaks with multidrug-resistant organisms

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Background: Outbreaks with multidrug-resistant organisms (MDROs) are a significant burden on the healthcare system and the wellbeing of affected patients and carriers. Cross-institutional MDRO outbreaks require a concerted multidisciplinary effort for effective outbreak management. This presents challenges regarding cooperation, coordination and communication between stakeholders. In this study, we investigate collaborative structures and coordination roles in Dutch outbreak response networks and how Dutch healthcare professionals engage in preparedness activities relating to MDRO outbreaks. These findings form the basis for the development of a stress test exercise for improving professional and organizational collaboration and coordination during MDRO outbreaks.

Methods: Using a mixed-methods design, an online survey and qualitative interviews are conducted among healthcare professionals in two healthcare regions in the Netherlands. Social network analysis is used to gain insight in collaborative structures and brokerage roles. To investigate preparedness activities, the survey is combined with qualitative interviews to explore respondents' experiences, preferences and needs regarding preparedness activities for MDRO outbreak management.

Results: During the workshop we will show the cross-organizational network structures, the strengths and weakness of the mutual connections and provide insight in positions in networks, roles and responsibilities. Also, we provide insight in how the use of and experience with training and exercise activities, such as stress tests, contribute to preparedness for MDRO outbreaks in vulnerable patient populations.

Conclusions: This study shows how healthcare professionals from different organizations collaborate during MDRO outbreaks, and how they engage with preparedness activities. This provides valuable input for development of a stress test specific to MDRO outbreak management, and other interventions to improve outbreak preparedness.

4.D. Scientific session: From policy to implementation: Learnings around health system reforms and Universal Health Coverage

Abstract citation ID: ckae144.201

Organised by: Trinity College Dublin (Ireland)
Chair persons: Steve Thomas (Ireland), Johan Hansen (EUPHA-HSR)
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In this session, the authors and audience have the opportunity to engage in discussions around health policy integrity and reform implementation. Introducing and implementing health system reform has been a perennial issue for countries around the world over the past number of decades. Recently, the introduction and implementation of Universal Health Coverage (UHC) has been of particular focus, with 193 countries committed to introducing UHC by 2030. At the same time, European countries that previously established national health systems are introducing new reforms in the hope of making their health systems more efficient and equitable. However, there are a number of challenges along the path of policy development and implementation with which all countries must grapple, and how individual countries go about reforming their health systems depends on their social, political, cultural and economic contexts. Learnings from around the world have highlighted that reforms can be challenged or stalled in both the design and implementation phases. This workshop, which conceptualises implementation as the "acid test" of a policy, thus explores, through three case studies, the factors that facilitate or challenge the implementation of reforms. At the same time, we discuss policy integrity, exploring reasons for why policies pivot away from original design and intent. Furthermore, we discuss the implications of health reform on equity, cognisant that the primary objective of this collective reform work is to reduce the financial burden of healthcare on households and improve access. The first presentation will provide the framework for audience discussions, outlining international lessons in relation to UHC reforms and equity. The second presentation will provide a snapshot of the Finnish experience of introducing a "big bang" structural reform. The third presentation highlights lessons from the Portuguese experience of primary healthcare reforms, the opportunity these offer for creating patient-centred care and the integral role that politics and governance play in the reform process. Finally, the Irish case study highlights the experiences of a High Income County attempting to introduce UHC much later than its European counterparts, and negotiations between the public and private sectors. Through this, we hope to hold the tensions and stimulate debate about policy robustness and resilience, and reform implementation. Each presenter will be given a strict deadline of 10 minutes each by the chair and then the audience will be invited to debate the problems identified and strategies proposed to discuss: (i) what are the facilitators and barriers to reform implementation, (ii) what are the factors that encourage policy integrity and change and (iii) whether greater cooperation across Europe regarding health reforms can be more effective in supporting robust health systems.

Key messages:

- For reforms to be facilitated, there must be cohesion and commitment across the political, social, economic and cultural systems, and no fragmentation across health system functions.
- As policy implementation is attempted, there is a tension between remaining true to key values and adapting to new circumstances.

Abstract citation ID: ckae144.202

Implementation as the acid test: International lessons from Universal Health Coverage reforms around the world

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Introduction: Health systems around the world are moving towards Universal Health Coverage, which is included in the Sustainable Development Goals. However, the journey towards UHC began decades ago, with countries in Europe introducing national health services following World War II. This was mirrored in Canada and, more recently, countries in Latin America introduced health reforms as part of broader social movements. Since the millennium, reforms have also taken place in Low and Middle Income Countries as well as High Incomes Countries. However, because the introduction of UHC often necessitates far-reaching reforms, countries face significant challenges along the path of policy implementation.

Methods: A realist review explored international experiences of introducing and implementing UHC. Embase, Medline and Web of Science were searched. Descriptive, inductive and deductive realist analysis aided the development of Context, Mechanism, Outcome Configurations, alongside stakeholder engagement.

Findings: How countries go about establishing UHC depends on their social, political, cultural and economic contexts. For reforms to be facilitated, there must be cohesion and commitment across all systems, as well as the functions of financing, governance and service delivery. This includes political support, often underpinned by legislation framing healthcare as a human right, as well as communication between stakeholders and the development of a strong primary care sector. Conversely, fragmentation across these systems and functions pose significant barriers to reform.

Conclusions: Examining international experiences of UHC reforms supports learning around the factors that facilitate or challenge implementation. These learnings empower policy makers and health system leaders by providing roadmaps for reform implementation. Finally, this research provides insights into health inequities that are rebalanced through the implementation of UHC reforms.

Abstract citation ID: ckae144.203

Big bang in the middle of a storm: Lessons from implementing health system reform in Finland

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Introduction: Finland is often defined as a Nordic welfare state, characterised by universal access to healthcare and an emphasis on national and local politics in the governance of the system. In 2023, the Finnish health system was reformed by centralising organisation (purchasing and service delivery) to regional entities, as well as funding and overall governance to the state from 200 local organisations. The aims of the reform were to improve accessibility, decrease inequities, promote population health and curb growing costs. In the Finnish health system, as in other fields of society, we "find a huge number of very small changes, and a very small number of huge changes" (Cairney 2016). This makes the Finnish health system reform a rare opportunity to use a large-scale reform as a context for a study on reform implementation.

Methods: This research is based on document analysis and interview data collected from top regional managers. The data was analysed using a political determinants of health framework and thematic analysis.

Findings: The Finnish reforms were introduced by a left-centre government but implemented by a right-wing government with strong opposition to the reforms, which made full implementation challenging. The results highlight the importance of political commitment to implementation, demonstrate that reforms shape power relations at all levels of the health system and highlight how health system reforms are essentially about redistributions of power between different actors. The results also highlight the importance of contextual factors and suggest that large-scale reform should be treated as a system shock for which health systems need to prepare.

Conclusions: Understanding the political determinants of health and political commitment to reform is essential to implementation, as is the importance of resilience and preparedness to unexpected circumstances either due to reform-related factors or to external and contextual factors.

Abstract citation ID: ckae144.204
Towards integration of care in Portugal: Expansion of a new management model for the NHS

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Introduction: In 1999, the first Local Health Unit (LHU) was created in the Northern region of Portugal to improve management, share resources and integrate care. The LHU integrated a National Health Service (NHS) hospital and primary healthcare (PHC) services located within the same geographic area and became responsible for public health activities and the provision of care. Over the next few years, 7 LHUs were created, the last one in 2012. In 2024, the government expanded this model to the entire territory, creating 39 LHUs. This research analyses the objectives, characteristics and expected outcomes of the scale-up of LHUs.
Methods: This study utilised a mixed methods approach based on the 6 Ps - Problem, People (policy stakeholders), Process (policy development), Price tag (Resource allocation), Paper (policies, laws, regulations), Programmes (policy implementation); and the political, social and economic setting of the Policy Circle Framework.
Findings: A 2015 assessment revealed that LHUs did not differ from non-LHUs in terms of access, waiting times, clinical excellency, patient safety or patient centeredness. The degree of integration of care in LHUs seemed lower compared with non-LHUs. However, there was no systematic evaluation of the creation of the first LHU. Despite this, the government announced the intention to expand LHUs to the entire national territory, which culminated with the creation of 39 LHUs in 2024 to deliver integrated care, with an emphasis on the proximity and continuity of health services and promotion.
Conclusions: Despite the existing knowledge gap on the impacts of LHUs in health outcomes and management efficiency, LHUs can provide opportunities to advance integrated and patient-centred care and develop strategies for managing scarce resources, including the health workforce. Nevertheless, the integration of hospitals and PHC can threaten the centrality of primary health care both in terms of delivery of care and resource allocation.

Abstract citation ID: ckae144.205
Reform of the Irish health system towards Universal Health Coverage and the role of the private sector

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Introduction: Ireland stands as a compelling case study of a High Income Country setting out on Universal Health Coverage (UHC) reforms. The Irish health system has historically been a two-tier system with a large private sector and a high proportion of the population holding private health insurance (48% in 2023). The reform programme Sláintecare, adopted as a policy direction by all political parties, aims to introduce UHC, strengthen primary care capacity, address inequitable access and decentralise decision-making. The overall aim of this study is to chart the progress of the Sláintecare reforms, from their introduction in May 2017 up to December 2023, and to explore how they have changed throughout implementation.
Methods: A document analysis was undertaken using the READ approach. Department of Health publications, Budget reports, Service Plans, National Development plans, minutes of Health Service Executive committee meetings and transcripts of the Joint Committee of Health sessions in the Irish parliament were uploaded to NVivo and a content analysis was conducted, utilising predetermined themes.
Results: Areas that have made the most significant progress include the expansion of community care and lowering of some out-of-pocket costs. Since implementation began, one approach the government has taken has been to use the private sector to fill capacity gaps in the public system. For example, strategies for reducing waiting lists and using community diagnostics have largely used the private sector. However, through using the private sector, money is taken away from building capacity in the public system, which was the original goal of Sláintecare.
Conclusions: The private sector plays a significant role in providing care in Ireland and leveraging this for the benefit of public patients could play a positive role towards UHC, provided that funding for a purchaser-providers type model for some services from the government could be guaranteed into the future.

4.E. Pitch presentations: Effects of environmental exposure

Abstract citation ID: ckae144.206
Greenness and mortality in an industrialized area in Southern Italy: a health impact assessment study

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Background: In Taranto the effects of industrial installations have been studied, but less attention has been placed on the impacts of green-oriented policies. The "3-30-300" rule states that every citizen should have 30% tree-canopy-cover in their neighborhood and not live more than 300m away from the nearest green space. In this Health Impact Assessment (HIA) study, we aimed to quantify the deaths that could be prevented in population aged $\geq$20 years by implementing this policy in Taranto.
Methods: Population weighted exposures (PWE) to green spaces (10m) were estimated using the 2022 greenest season NDVI from Sentinel-2 and the 2021 ESA WorldCover within a 300m (WHO 2016) buffer. We set a tree-cover optimal target of 30% and interim targets from 10% to 25%. For each tree-cover target, we set the counterfactual exposure (CE) as the corresponding PWE to NDVI. Age-specific preventable deaths (PD) were calculated by multiplying the baseline deaths (ISTAT) by the preventable fractions (PF).

Preventable years of life lost (PYLL) were calculated by multiplying the PD by the specific life expectancy. To compute the 95%CI, we ran 100,000 Monte Carlo simulations to propagate the uncertainties of both CE and ERF to the final estimates.

Results: The PWEs to NDVI and tree-cover-proportion were 0.19 and 8.0%, respectively. For the 30% tree-cover target (currently achieved by the 1.5% of population), the CE (NDVI) and PF (%) were 0.33 (0.32-0.33) and 5.4% (4.1%-6.2%). A total of 126 (97-146) PD and 1270 (976-1474) PYLL were estimated. Three-cover, shrubland and grassland were associated to higher NDVI values, while built-up and deprivation-index were associated to lower greenness. NDVI and summer temperature showed an inverse relationship.

Conclusions: This study as a pioneering effort in Southern Italy. Providing more green space could prevent a substantial number of premature deaths in Taranto, potentially up to 5.4% by achieving a 30% tree-cover.

Key messages:

- Providing more green space could prevent a substantial number of premature deaths in Taranto, potentially up to 5.4% by achieving a 30% tree-cover.
- Built-up and deprivation-index were associated to lower greenness. NDVI and summer temperature showed an inverse relationship.

Abstract citation ID: ckae144.207
Neighborhood environment and falls: a longitudinal Japan gerontological evaluation study

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Background: Older adults who experience falls are at a high risk of injury and death and require long-term care. Notably, the risk of falls varies among different neighborhood environments. No prior longitudinal studies have examined the association between falls and neighborhood environment at the community level. Identifying such associations will help prevent people falling by improving their neighborhood environment. Herein, we aimed to identify neighborhood environmental factors associated with falls among older adults in Japan.

Methods: We analyzed the data of 27,346 older adults living in 416 communities who participated in the 2010, 2013, and 2016 Japan Gerontological Evaluation Study surveys. The dependent variable was the occurrence of falls in 2016, and the explanatory variables were the mean scores of each of eight community-level neighborhood environment variables, categorized into tertiles (high, middle, and low groups) in 2013. Our model was adjusted for covariates (e.g., sex, age, and socioeconomic status) using the variables from 2010. A multilevel Poisson regression analysis was performed to obtain the relative risk (RR) and 95% confidence interval (CI) between the neighborhood environment and falls. Missing variable values were supplemented by multiple imputations.

Results: Older adults living in neighborhood environments with more parks or foot paths suitable for exercise or walking had a lower risk of falling after 3 years compared to those living in neighborhood environments with fewer parks or foot paths (RR: 0.89; CI: 0.80-0.99). For the variable 'locations difficult for walking, such as hills or steps', older adults in the middle group had a lower risk of falling than those in the low group (RR: 0.94; CI: 0.88-0.99).

Conclusions: Parks or foot paths are important environmental improvements that may prevent falls. Having hills or steps in the neighborhood could be beneficial when properly integrated into the environment.

Key messages:

- Older adults with access to parks, footpaths, and challenging terrains suitable for exercise and walking, had a lower risk of falling.
- These findings could be applied in urban designs to prevent falls among older adults.

Abstract citation ID: ckae144.208
Green and blue spaces residential exposure over childhood and multimorbidity in adolescence

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Background: Previous studies have explored associations of exposure to natural spaces with specific adverse health outcomes over childhood. However, knowledge is lacking on its effects on multimorbidity, defined as the co-occurrence of two or more diseases in the same individual. We aimed to assess the associations between exposure to green and blue spaces, at multiple time points and through trajectories over childhood, with multimorbidity in early adolescence.

Methods: In 2388 children from the Generation XXI birth cohort, we assessed, at birth, 4, 7 and 10 years, the residential greenness through the Normalized Difference Vegetation Index (NDVI), the distance from the child's residence to the closest green and blue space, and the presence of green and blue space ($>$5,000m^2) within 300m distance from the child's residence. We identified, from birth to 10 years, longitudinal trajectories of exposure to green and blue spaces, using latent class mixed models. At 13 years, participants were classified as having 0, 1 or ≥ 2 cardiometabolic, respiratory and/or neurodevelopmental adverse health outcomes. Adjusted multinomial logistic regression models were used.

Results: The prevalence of multimorbidity at 13 years was 43%, with overweight/obesity (35%), allergies and asthma (30%), and dyslipidemia (26%) as the most common adverse health outcomes. We observed that the presence of green spaces $>$ 5,000m^2 within a distance of 300m at birth, 4, 7, and 10 years was associated with lower odds of developing multimorbidity (Odds Ratio (OR) [95% CI] 0.55 [0.32-0.95]; 0.52 [0.32-0.84]; 0.51 [0.32-0.82]; 0.51 [0.32-0.80], respectively). No other significant associations were observed.

Conclusions: Green spaces around the child's residence seem to have a protective effect on the development of multimorbidity at 13 years. These findings reinforce the importance of urban design, and the creation of green spaces close to residential areas to optimize health across childhood and adolescence.

Key messages:

- The prevalence of multimorbidity at 13 years is high and worrying.
- Increasing accessibility to green spaces might decrease the risk of multimorbidity in adolescence.

Abstract citation ID: ckae144.209
Long-Term exposure to NO2 and Stroke Mortality in Portugal: an ecological study from 2001 to 2021

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Background: Air pollution is an important contributing factor for many pathologies, including stroke. Nitrogen dioxide (NO2), an air pollutant, has been associated in multiple studies with strokes' mortality.
Aim: This study aims, for the first time, to estimate the number of deaths by stroke due to long-term, ambient exposure to nitrogen dioxide in Portugal for the years 2001-2021.
Methods: An ecological study was considered, including data for NO2 outdoor concentration from Portugal. Mortality data by stroke was obtained divided in 5-year groups. It was also obtained life expectancy for each year to calculate the years of life lost (YLL). The hazard ratio (HR) was obtained from literature (1.009, CI 1.003-1.016). The population attributable fraction (PAF) of YLL by stroke due to ambient NO2 long-term exposure was calculated.
Results: The annual average NO2 concentration in Portugal decreased from its peak in 2001 of 29.4 to 12.2 μg/m3 in 2021. The YLL by stroke decreased from an estimated 57452 to 31204 from 2001 to 2021. The PAF of YLL by stroke due to ambient NO2 long-term exposure reached its peak in 2001, when an estimated 5.2% of all the YLL by stroke, corresponding to 3029 YLL, were due to NO2 exposure and a bottom in 2021, when 2.2%, corresponding to 682 YLL, where due NO2 exposure.
Conclusions: The policies and legislation implemented to curb down NO2 seem to have had an effect in Portugal. A reduction in NO2 emissions was achieved, having a significant impact on YLL by stroke in Portugal, suggesting that curbing the NO2 emissions down had a positive effect on mortality by stroke in Portugal. To further enhance our knowledge on the real impacts of NO2, further studies must be conducted to estimate the morbidity associated with NO2 on stroke as well as in other diseases.
Key messages:
- Pollution by nitrogen dioxide decreased significantly from 2001 to 2021.
- Around 20000 years of life were lost just in Portugal due to nitrogen dioxide between 2001 and 2021.

Abstract citation ID: ckae144.210
Burden of disease due to road traffic noise in Flanders, Belgium

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This study estimates the disease burden of ischemic heart disease (IHD), stroke and diabetes mellitus attributable to road traffic noise in the Flemish Region (Belgium) for the year 2020, expressed in disability-adjusted life years (DALYs). The research proposes an approach to stratify population exposure to noise according to age and sex, which allows to examine internal differences in noise burden related to both varying risk and baseline burden. Stratification of population exposure to noise is achieved by (1) linking modelled noise exposure to age- and sex-stratified population data at small area-level, (2) dividing the prevalence in each exposure class proportionally over the strata, and (3) aggregating the small areas to a Flemish total per stratum. Annual day-evening-night level exposure is translated into the fraction of attributable burden relying on relative risks (RR) from the WHO's Environmental Noise Guidelines and more recent studies. Baseline burden for the three outcomes is sourced from the Belgian National Burden of Disease Study. The lower and upper bound of the RR's 95% confidence interval (CI) are used to calculate the uncertainty range on the burden estimates. The total noise DALYs estimated are 1092 (95% CI: 135, 2061) for IHD, 761 (379, 1017) for stroke, and 671 (486, 918) for diabetes. Noise burden rates rise steeply with age for all outcomes, although the wide CIs on the IHD estimates prevent to ascertain a significant trend. The IHD burden is twice as high in men as in women, while both sexes are almost equal for the other outcomes. The variations between age and sex groups are largely explained by differences in baseline burden, as exposure is fairly constant across strata. This study estimates age- and sex-stratified disease burden attributable to noise traffic in Flanders, Belgium. As differential exposure between the population subgroups is limited, any variation in noise DALYs is mainly related to stratum-specific baseline burden.
Key messages:
- Road traffic noise is responsible for hundreds of healthy life years lost in Flanders, Belgium.
- The noise burden for stroke and diabetes rises sharply with age, and the burden for ischemic heart disease is twice as high in men as in women.

4.F. Scientific session: Progress in assessing climate change risks to health and implementation in UK and Europe

Abstract citation ID: ckae144.211

Organised by: NIHR Health Protection Research Unit in Environmental Change and Health (UK), EUPHA-ENV
Chair persons: Marija Jevtic (EUPHA-ENV), Grace Turner (UK)
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Climate change poses one of the greatest threats to health security. Climate change is increasing the frequency and intensity of environmental health threats like flooding and heatwaves and is creating conditions which heighten the risks from infectious diseases. Whilst everyone will be at some risk from adverse health impacts from climate change, the impacts will vary at individual level and the most disadvantaged both here in the UK and around the world will be disproportionately affected. Many of the anticipated adverse health impacts of climate change in the UK are still avoidable through mitigation and adaptation and that there are other benefits to health to be gained, therefore rapid action is critical to avoid the most severe potential scenarios. The Health Protection Research Unit in Environmental Change and Health, funded by the National Institute of Health Research, provides multi-disciplinary research to support decision-making relating to the impacts and responses to environmental changes that affect human health and well-being in the UK and beyond. In this workshop we present the results of recent research on the progress in assessing climate change risk factors on health in the UK and review the evidence on implementation of mitigation and adaptation measures in Europe. The workshop aims to support evidence translation for climate action that prioritises health protection and equity. The workshop will include presentations on reviewing risk assessment methods for quantifying health impacts across Europe as well as analysing the effects of fuel poverty on cold-related mortality. We present results from an analysis of primary care data to identify individual level characteristics associated with increased risk of mortality during heatwaves. Furthermore, we review national food-based dietary guidelines across Europe and South America to determine how environmental sustainability is being integrated to benefit health. The workshop will comprise 4 -5 oral presentations and we will then open the floor to have a wider facilitated discussion about what are the evidence needs for UK and European policy to further address climate risks to health.

Key messages:

- The progress in assessment and understanding of risks from climate change on health is improving.
- The health risks we face from climate change will not be distributed equally across the UK and Europe.

Abstract citation ID: ckae144.212
Review of national climate change risk assessment methods for impacts on health and health systems in WHO European Region

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Background: Climate change poses significant risks to health and health systems. The European Union climate adaptation strategy sets out the pathway to become climate resilient by 2050 and supports the development of adaptation strategies across all levels of governance. Whilst many European countries have published climate change risk assessments (CCRA), it is unclear to what extent health outcomes have been quantified or prioritised. There is a need to improve methods for CCRA methods to support decision making on adaptation and better quantify future impacts on health. The aim of this study is to review the methods used in national CCRAs for impacts on health and health systems in the WHO European region.

Methods: National and European level CCRAs were identified from national government websites and European document databases e.g. Climate-ADAPT. The most recently published CCRA from each country was included. Data extracted from CCRAs included climate scenarios used, modelling data, outcomes, types of evidence evaluated, stakeholder involvement, health information, methods for prioritization of adaptation options and urgency scoring. Data extracted from each document was grouped by climate risk or outcome.

Results: Nearly all WHO EURO countries have conducted a formal assessment of climate risks and over half specifically include risks to health. All countries assessed the urgency to adapt to heat and flooding however, less than half consider the health related risks related to disrupted water supply and quality as well as impacts on food supply and security. The key reported health outcomes identified across countries were mortality, infectious disease, chronic diseases and mental health.

Conclusions: There is varying progress in the quantification and prioritization of health risks from climate change across Europe. To support better public health decision-making, CCRAs should integrate sub-national and local information for targeted adaptation action.

Abstract citation ID: ckae144.213
The impact of fuel poverty on cold-related mortality in England and Wales: disentangling the effects of fuel price, income, and energy efficiency

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Cold temperatures have been widely acknowledged as an important burden of poor health in many parts of the world including the UK. Although the temperature is expected to increase in the future due to climate change, the latest UK Health Effects of Climate Change (HECC) report projected that the number of cold-related deaths in the UK is expected to be more than 2 times of heat in the 2070s even under a high emission climate change scenario (RCP8.5). Therefore, it is still imperative to take intervention to reduce the health impacts of cold. People spent more than 90% of their time indoor and hence being able to stay in warm homes is crucial for reducing the impact of cold. However, some people may not be able to warm their home enough, a problem known as fuel poverty. Multiple factors can contribute to fuel poverty, including low income, poor housing performance, high fuel price as well as competing interest in fuel consumption and other essential living expenses. These challenges have been witnessed markedly during the cost of living crisis since 2021. This research investigates the effect of fuel poverty on cold-related mortality risk in England and Wales using small areal data. The underlying contributing factors of fuel poverty are explored to study the main mechanisms. The findings can support the identification of those who may be mostly affected by fuel poverty, and hence improve policies and interventions on reducing fuel poverty and protecting the public health from low temperatures.

Abstract citation ID: ckae144.214
Individual level risk factors associated with episodes of heat as recorded within primary care records: a time-stratified case-cross over study

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Background: A key recommended action outlined in Heat-Health Action Plans is to identify individuals at risk and deploy targeted interventions, however this is not routinely undertaken. A major contributing factor is a lack of understanding of individual-level risk factors to support an evidence-based approach to targeted prevention.

Aim: To use electronic health data to identify individual level characteristics associated with increased risk of mortality during heatwaves in England.

Methods: A time-stratified case-crossover analysis was undertaken of individual-level clinical and socio-environmental (SE) risk factors. Conditional logistic regression was used to characterise associations between temperature and the risk of death on hot days, with analysis stratified by potential risk modifying factors.

Results: Heat mortality risk was modified by a large range of chronic conditions, with cardio-respiratory, mental health and cognitive function conditions, diabetes and Parkinson's, all increasing risk. Prescribed medications also increased odds of death during heatwaves. Heat mortality risk was modified by a range of SE determinants of health investigated, with ORs increasing with age; OR differences by sex, ethnicity and living arrangement; an increasing trend in ORs by alcohol intake and body mass index, excluding the obese-3 group. Results suggest the least deprived have the lowest OR and the most deprived have the highest.

Conclusions: This study has important implications for patient medication management during heat events, incorporating heat-risk considerations into other health policies. The results also provide important evidence on the role of disadvantage in driving the inequitable distribution of climate impacts, and the need for better socio-economic data sets linked to health records. The findings highlight the importance of incorporating an assessment of individual SE circumstances when prioritising patients at highest risk during heat events.

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Integrating environmental sustainability within national food-based dietary guidelines: a qualitative analysis from five case study countries

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Background: The incorporation of environmental sustainability principles into national food-based dietary guidelines (FBDGs) has gained prominence as a strategy to address both human health and environmental concerns. This study aims to identify and explore the processes and considerations to integrate environmental sustainability in food-based dietary guidelines.

Methods: Countries that have integrated environmental sustainability in FBDGs since 2016 were identified from the UN FAO website. Background documents and interviews with key stakeholders involved in the development of FBDGs from case study countries (The Netherlands, Denmark, Chile, France and Belgium (Flanders)) were thematically analysed using the Framework Method. A coding framework explored the rationale for integration, data sources and analysis methods, stakeholder and expert engagement, synergies and trade-offs, translation into public messaging, and key learnings.

Results: Eight background documents and six interviews were analysed. Approaches to integrating environmental sustainability varied, from inclusion in dietary modelling optimisation to changes to consumer messaging. Nearly all countries adjusted guidelines to reduce red and processed meat and emphasise the role of plants in diets. However, issues of cultural significance, affordability, and access limited ambitions to reduce overall meat intake. Novel plant-based alternatives remain contentious due to concerns about their ultra-processed nature and potential nutrient inadequacies as substitution foods. Key barriers to integrating environmental sustainability into FBDGs include consumer acceptance, data quality and availability, stakeholder involvement and conflict, timelines, and resource constraints.

Conclusions: Several countries have successfully integrated environmental sustainability into their dietary guidelines, but there is still variation in the integration and acceptance of FBDGs including environmental sustainability.

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Assessing the health risks from flooding and chemical contamination: a scoping review

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Flooding can increase the mobilization of hazardous chemicals in the environment. This scoping review provides an overview of the evidence on how flood events effect our health through chemical contamination and describes the exposure pathways to guide prevention and response measures. Flooding includes surface water flooding, coastal flooding, river flooding, storm surge, monsoon rainfall and high tide. We found 110 papers that looked at the association between flooding and chemicals in the environment, with most studies looking at heavy metals, polyhydroxyalkanoates (PAHs), and arsenic. There was a lack of information on rural populations and studies on mobilisation of pesticides. Very few studies mapped or modelled human exposures, including for high-risk populations (e.g., children), and this remains an important evidence gap. Studies considering climate change highlighted the likelihood of chemical contamination and health risks to be exacerbated. Our results highlighted new pathways by which flood events mobilise chemicals and pose risks to human health (i.e., urban runoff, industrial sources). Although found extensively in the environment, gaps were identified in the evidence for pesticides, microplastics and heavy metals. Limited studies reported response measures to address the chemical contamination linked to flooding despite the health risks likely to increase due to poor infrastructure and management measures despite the extent of contaminated land and landfill sites. A dual risk management strategy (i.e., the coordinated management of both flood-related and chemical release risks is required to address flooding events, chemical releases, and health impacts.

4.G. Pitch presentations: Diabetes and chronic diseases

Abstract citation ID: ckae144.217

Exploration of research projects on personalised prevention supported by the European Commission

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The interaction between environmental exposures, lifestyle factors, and genetic predisposition affect individual susceptibility to chronic diseases. Personalised Prevention (PP) has emerged in the recent years as potential approach to integrate traditional public health approaches in prevention. The implementation of PP into national health systems so far has not realized its full potential due to a number of obstacles including scanty evidence from research. Within the project "PROPHET: A Map for Personalised Prevention in the Future of Healthcare", we conducted an extensive mapping of currently active research projects in the field of PP. We carried out a scoping review according to Arksey and O'Malley methodology, followed by consultations with experts in personalised medicine and prevention. We included 45 ongoing research projects on PP, of which 57.8% were funded by Horizon Europe, 35.5% by Horizon 2020, and 6.7% by Eu4Health. Regarding disease types, 40% of the projects were about cancer, 20% on cardiovascular and 20% on neurological and psychiatric diseases, followed by metabolic diseases and other chronic conditions. Overall, the EC allocated approximately €160 million to cancer personalised prevention projects, roughly double of the funding dedicated to cardiovascular, neurological and psychiatric diseases. The emphasis on cancer projects is noteworthy, with Horizon Europe emerging as the main funding programme aligned with the ongoing Cancer Mission. Regardless of the disease, most of the projects addressed primary and secondary personalised prevention research. This is in line with the limited approaches in PP in the setting of primary and secondary personalised prevention (e.g., genetic testing to identify high risk subjects for breast cancer) compared to tertiary prevention (e.g., pharmacogenomics). This comprehensive mapping underlines the EU's continued commitment to promoting PP, which is fundamental to the future of healthcare.

Key messages:

- The EC prioritises significant financial resources towards cancer personalised prevention research projects, highlighting Cancer Mission as a focal initiative in the personalised prevention field.
- European-funded projects focus on primary and secondary personalised prevention strategies. This suggest that we currently miss evidence in these areas.

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Cross-national characteristics and differences in type 2 diabetes: Malta versus Luxembourg

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Introduction: Type 2 diabetes mellitus (T2DM) is a significant global health concern, requiring a thorough understanding of its population-level features and impact. This study aims to compare the characteristics of T2DM in Malta and Luxembourg, two European nations with distinctive healthcare systems and societal attributes.

Methods: Data from national health surveys conducted in Malta and Luxembourg, encompassing various factors such as socio-demographics, medical history, biochemical metrics, and anthropometric measurements, were analysed to investigate the features of T2DM. Comparative analyses were conducted utilizing chi-square tests, independent t-tests, and multivariable binary regression.

Results: Malta (8.23%) and Luxembourg (7.82%) shared similar T2DM prevalence, with a predominance of men having T2DM. Malta exhibited a higher prevalence of obesity among the individuals having T2DM. Multivariable analysis showed no significant association between living in Malta or Luxembourg and diabetes. However, being male (OR: 1.49, CI 95%: 1.07–2.08, $p = 0.02$), an occasional smoker (OR: 2.49, CI 95%: 1.54–4.03, $p < 0.01$), increasing age (OR: 1.05, CI 95%: 1.03–1.67), and larger waist circumference (OR: 1.02, CI 95%: 1.01–1.04, $p = 0.01$) were positively associated with diabetes.

Conclusions: Understanding similarities and differences in T2DM between Malta and Luxembourg is crucial for identifying common challenges to formulate effective prevention and management strategies. Despite similar T2DM prevalence rates, notable differences in obesity rates and socioeconomic factors may contribute to disparities in disease burden. The complex interplay of numerous population characteristics underscores the importance of tailored public health interventions. This study accentuates the need for interventions and evidence-based policies to address modifiable risk factors, and advocate for cross-national cooperation to reduce the T2DM epidemic, especially in the context of post-COVID public health planning and resource allocation.

Key messages:

- Malta and Luxembourg share similar T2DM prevalence despite differences in other factors, hypothesised to be attributed to differences in risk factor profiles and health care infrastructure.
- This study underscores the necessity for tailored interventions and cross-national cooperation to address common challenges in T2DM management in the two small countries.

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Childhood socioeconomic differences in type 2 diabetes: longitudinal results of The Maastricht study

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Background: Type 2 diabetes mellitus (T2DM) is a common chronic disease that disproportionally affects disadvantaged groups. People with a low socioeconomic position (SEP) have an increased risk of developing T2DM. Knowing the potential influence of early life on T2DM risk later in life, this study aims to examine longitudinal associations between childhood SEP and type 2 diabetes, independent of adult SEP.

Methods: Longitudinal data was used from 6,727 participants of The Maastricht Study without T2DM at baseline (participants with prediabetes were included in the study sample). T2DM status was determined by a standardized oral glucose test. Sample mean (SD) age was 58.7 (8.7) years and 55.2% was female. Childhood SEP was determined by the highest level of completed education for father and mother and a measurement for childhood income inadequacy. Adult SEP was determined by the highest completed level of education, equivalent household income and occupational position. Incident T2DM was self-reported yearly. Associations were studied annually over a 12-year period (median (IQR) 8.2 (4.9) years) with Cox regression analyses.

Results: A total of 247 participants (3.7%) without T2DM at baseline reported incident T2DM. Incident T2DM was more common in people with low childhood SEP versus high childhood SEP (4.5% vs. 2.7%, $p = 0.008$) and for people with low adult SEP versus high adult SEP (5.2% vs. 2.1%, $p < 0.001$). The impact of parental education on incident T2DM is mitigated by adult SEP. Childhood income inadequacy did predict T2DM independently of adult SEP, with a HR of 1.22 (1.01, 1.45).

Conclusions: Socioeconomic inequalities in childhood and adulthood are both predictive for incident T2DM. Experiencing income inadequacy in childhood increases the risk of developing T2DM in later life, independent of adulthood SEP. More attention is needed for deprivation in childhood and its impact on T2DM.

Key messages:

- People who have experienced income inadequacy as a child have a higher risk of developing T2DM in later life, independent of their adult SEP.
- More attention and research is needed for the impact of childhood poverty on developing T2DM in later life.

Abstract citation ID: ckae144.220

Body composition trajectories before the diagnosis of type 2 diabetes mellitus in Whitehall II study

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Background: The trajectories of anthropometric and body composition measures (important predictors of diabetes) are rarely explored before diabetes diagnosis. Our study aimed to compare trajectories of fat mass (FM), fat-free mass (FFM), body mass index (BMI), and waist circumference (WC) preceding type 2 diabetes mellitus (T2DM) to aging trajectories of individuals without diabetes during follow-up.

Methods: We used data from the Whitehall II study, a prospective cohort of British civil servants. 5-yearly BMI and WC were available for up to 20 years, while 5-yearly FM and FFM measures were available for up to 10 years. Linear mixed models with a backward timescale (from diabetes diagnosis or end of follow-up) were performed stratified by sex and adjusted for age, occupational grade, ethnicity, and lifestyle factors.

Results: A total of 1674/990 (anthropometric/body composition analysis) women (233/81 incident diabetes) and 3917/2710 men (479/217 incident diabetes) 49.81 [0.08]/60.91 [0.9] (mean [SE]) years of age at baseline were included. All outcomes were higher in cases compared to controls. Women's FM, BMI, and WC followed a quadratic increase in both groups with a faster increase among incident diabetes cases (dBMI 0.04 [0.01] kg/m2/year, dFM 0.19 [0.09] kg/year, dWC 0.2 cm/year [0.05]). FFM decreased linearly with similar slopes in cases and controls. Men's FM, BMI, and WC also showed a quadratic increase with faster increase in incident cases compared to controls (dBMI 0.03 [0.01] kg/m2/year, dFM 0.23 [0.04] kg/year, dWC 0.08 [0.02] cm/year). FFM followed a quadratic decrease in both groups with a slower rate (0.06 [0.03] kg/year) in incident cases.

Conclusions: Incident diabetes cases have higher anthropometric and body composition measures 10-20 years before diabetes diagnosis compared to controls. Furthermore, incident cases showed faster increases in these measures except for FFM that decreased during follow-up with similar or lower speeds in cases than controls.

Key messages:

- Traditional anthropometric measures do not capture the underlying changes in body composition.
- The inclusion of body composition in risk calculators may result in more precise diabetes prediction.

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Diabetes, chronic respiratory and cardiovascular diseases in Germany and Europe (EHIS-3 Survey)

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Background: We examined the prevalence of major NCD groups (diabetes, chronic respiratory diseases (CRD) and cardiovascular diseases (CVD)) as well as self-rated health (SRH) and health-related limitation in everyday activities among those with one of these NCD in Germany and Europe (average of 28 European countries (EU-28)).

Methods: Data was derived from the European Health Interview Survey (EHIS-3, 2019/20). Health indicators were: self-reported diabetes, CRD and CVD in the past 12 months; SRH (very good/good vs. fair, bad, very bad) and health-related limitations in usual everyday activities for at least 6 months (severe/moderate vs. no limitation). Educational level was operationalized via ISCED-11. Analyses are age-standardized to the European Standard Population 2013.

Results: Prevalence of major NCD in Germany were statistically significantly higher than in the EU-28: diabetes 8.1% vs. 7.1%, CRD 11.2% vs. 7.9% and CVD 6.6% vs. 5.4%. Highest prevalence was observed in the lowest educational group and lowest prevalence in the highest educational group for all of these NCD in Germany as well as in the EU-28. The proportion of a very good/good SRH among people having one of these NCD was higher in Germany compared to the EU-28: for people with diabetes 35.8% vs. 31.0%, with CRD 45.6% vs. 42.9% and with CVD 25.3% vs.19.1%. The proportion of health-related limitations among those having at least one of these NCD varied according to educational level in Germany as well as in the EU-28 with a higher prevalence among people with low educational level compared to high.

Conclusions: Even though prevalence of these NCD were higher in Germany, a higher proportion of very good/good SRH for people with one of these NCD was observed compared to the EU-28. Many factors such as severity of disease, disease management and care could explain this difference. Social inequalities were present not only in the prevalence of NCD but also in health-related limitations in Germany and Europe.

Key messages:

- Prevalence of self-reported major NCD were higher in Germany while self-rated health among people having NCD was better than in Europe.
- Health equity interventions in Germany and Europe are necessary.

Abstract citation ID: ckae144.222

Impact of retirement on physical activity in older adults: a longitudinal analysis from SHARE

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Background: With ageing populations experiencing longer post-retirement years, understanding the influence of major life transitions on health behaviours such as physical activity (PA) is crucial. This study assesses how retirement affects PA levels by analysing longitudinal data from the Survey of Health, Ageing and Retirement in Europe (SHARE).

Methods: This analysis utilised longitudinal data from 2004 to 2020, categorising PA according to WHO guidelines adapted to individual-level data from successive waves of SHARE. The study examined the relative risks (RR) of being physically active, using generalised estimating equation models to compare periods before and after retirement.

Results: The cohort consisted of 8,998 individuals aged 50 and older who were employed at baseline and retired during the study period. Initially, 83.6% of participants were categorised as physically active. A noticeable decline in PA was observed post-retirement, with RR decreasing from 1.08 (95%CI 1.07-1.10) more than 10 years before retirement to 0.90 (95%CI 0.88-0.93) more than 10 years after retirement, compared to the year of retirement. Previously inactive individuals often increased their PA levels, peaking 3 to 4 years post-retirement (RR increased from 0.79, 95%CI 0.70-0.88, to 1.49, 95%CI 1.36-1.63), suggesting a temporary boost in moderate-intensity PA during the so-called "honeymoon phase".

Conclusions: Retirement can serve as a window of opportunity for enhancing leisure-time PA, particularly among those previously inactive. Sustained increases in PA are less common, highlighting the need for targeted interventions to support continued engagement in PA among retirees. The variations in PA trends suggest that interventions should be tailored to individual characteristics such as age at retirement, previous job type, and educational background to maximise public health impact. This study underscores the challenges of ensuring long-term health benefits through PA.

Key messages:

- Retirement significantly alters physical activity patterns, highlighting an opportunity for targeted health interventions.
- Longitudinal data reveals critical periods post-retirement that could benefit from public health strategies to maintain or increase physical activity among older adults.

Abstract citation ID: ckae144.223

An integrated approach to enhance vaccine uptake in chronic patients – the VacciNetwork project

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Issue/problem: Individuals with chronic illnesses are at a higher risk of infections and their complications. Vaccinations are crucial in reducing this risk and their integration in chronic care pathways can enhance vaccine uptake, but it requires a collaborative approach and increased awareness in care personnel, caregivers and patients.

Description of the problem: The Local Health Authority of Rome 2 (ASL Roma 2, with approx. 1.3 million residents) initiated an active promotion plan for recommended vaccinations in chronic patients in January 2023, and a Clinical Vaccinology Workbook was produced to guide healthcare workers in promoting vaccinations across various care settings. The plan aims to establish collaborative agreements with hospitals and territorial structures that manage these patients, integrating vaccination plans with clinical and healthcare pathways for a more holistic approach to chronic disease management, a model that could benefit similar populations globally.

Results: Data was extracted from administrative databases regarding vaccinations performed in 2022 and 2023 on fragile subjects, i.e., those with a marked 'risk condition', aged $\geq$18 years. The results showed that vaccine uptake was more than doubled (6675 vs. 2041; +227%). Notably, vaccinations rose among those with oncological-hematological diseases (+212%), asplenia (+185%), chronic kidney failure or on dialysis (+190%) and those with an HIV infection (+160%). Increases were also significant in other immunocompromised conditions (+194%).

Lessons: The practice underlines the importance of targeted vaccination programs within chronic care management. Collaborative healthcare frameworks can significantly improve vaccination rates, reducing the burden of infectious diseases in high-risk populations. These results underscore the potential applicability of such a model in other regions and countries, highlighting the universal relevance of integrated healthcare solutions.

Key messages:

- Collaborative, integrated frameworks between clinical and vaccination services can represent a model for increasing vaccine uptake in chronic disease patients.
- Strategic partnerships and education in healthcare settings can improve vaccination rates and contribute to more holistic chronic disease management.

Abstract citation ID: ckae144.224

Digital services as alternative for in-person visits among clients with long-term illnesses

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Background: For individuals managing long-term illnesses and often requiring complex care across health and social care sectors, the transition to digital platforms holds considerable potential to facilitate management of one's health. This study examined factors among people with long-term illnesses associated with their perception that digital services had replaced in-person visits in health and social care.

Methods: A total of 11,012 Finnish residents with long-term illnesses necessitating regular care (56% female, mean age 56.9, SE .23) responded to a nationwide population survey between September 2022 and March 2023. The Inverse Probability Weighting method was used to correct for bias. Complex samples binary logistic regression was used to examine whether factors related to self-rated health, distress, digital skills and perceived benefits of digital services were associated with the replacement of in-person visits by digital services. The model was adjusted for age, gender, education, and urbanicity.

Results: Approximately one third (35.8%) of the respondents indicated that the use of digital services had replaced in-person visits within the past 12 months. Respondents in poor or moderate health (OR 1.17, 95% CI 1.02-1.34) had greater odds of reporting the replacement compared to those in good health. Those with proficient digital skills (OR 1.84, 1.57-2.14) and those perceiving more benefits in digital services (OR 1.56, 1.47-1.74) had greater odds of reporting of the replacement compared to their counterparts.

Conclusions: Transition to digital services could facilitate access to care for individuals with long-term illnesses perceiving their health poorer. Promoting digital skills and perceptions of benefits of digital services can significantly increase the use of digital services as substitutes of in-person visits and contribute to more efficient allocation of health and social care resources.

Key messages:

- Especially those reporting poorer health seem to use digital services as replacements of in-person visits, offering the potential to optimize resource utilization in health and social services.
- Promotion of digital skills and perceptions of the benefits of digital services could increase the use of digital services as replacements for traditional visits with health and social professionals.

4.H. Pitch presentations: Health system performance

Abstract citation ID: ckae144.225
Out of hospital cardiac arrest outcomes' determinants: an Italian retrospective cohort study

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Out-of-hospital cardiac arrest (OHCA) is the most time-critical and time-dependent medical emergency and is associated with low survival rates and poor neurological outcomes at the global level. This study aims at evaluating post-OHCA intra-hospital mortality risk according to patient's characteristics and emergency health service management (EMS), including level of care of first-admission hospital. We conducted a retrospective cohort study based on data from the Lombardia Cardiac Arrest Registry (Lombardia CARe), the most complete nationwide out-of-hospital cardiac arrest (OHCA) registry in Italy. Out of 12,581 patients registered from 2015 to 2022, we considered 1,382 OHCA patients admitted alive to hospital and survived more than 24 hours. We estimated risk ratios (RRs) and corresponding 95% confidence intervals (CI) of post-OHCA intra-hospital mortality through log-binomial regression models adjusted by patients' and EMS characteristics. The study population consisted mainly of males (66.6%), most aged 60-69 years (24.7%) and 70-79 years (23.7%). Presenting rhythm was non-shockable in 49.9% of patients, EMS intervention time was less than 10 minutes for 30.3% of patients, and cardiopulmonary resuscitation (CPR) was performed for less than 15 minutes in 29.9%. Moreover, 61.6% of subjects ($n = 852$) died during hospital admission. Post-OHCA intra-hospital mortality risk is 27% higher for non-shockable presenting rhythm (RR 1.27, 95% CI 1.19-1.35 vs. shockable rhythm) and 39% higher for longer CPR time (RR 1.39, 95% CI 1.28-1.52 for 45 minutes or more vs. <15 minutes, p-value for trend <0.01). Patients who accessed a secondary vs. tertiary care hospital were more frequently older, with a non-shockable presenting rhythm and longer EMS intervention time. Our findings showed that patients' outcomes are associated with intrinsic OHCA characteristics and Health System's resources are utilised as efficiently as possible.

Key messages:

- Intra-hospital mortality risk was 27% higher among OHCA patients with non-shockable presenting rhythm, net of the hospital level of care.
- Early defibrillation of shockable rhythms is associated with improved survival, so ensure timely access to defibrillators and implement education and training programs to the first CPR is pivotal.

Abstract citation ID: ckae144.226
Factors influencing delay in cancer diagnosis: a qualitative study in Chile, Colombia and Ecuador

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Background: Although the greatest delays in cancer diagnosis in Latin America occur in the provider interval, little is known about related factors. This study, part of EquityCancer-LA, aims to analyse the factors influencing access to cancer diagnosis from key stakeholders' perspective in healthcare networks of Chile, Colombia, and Ecuador.

Methods: A qualitative, descriptive-interpretative study was conducted in two networks per country in 2023, using semi-structured individual interviews ($n = 114$) with a criterion sample of primary care (PC) ($n = 40$) and secondary/tertiary hospitals ($n = 44$) health/administrative professionals, managers, and policy makers ($n = 30$). Thematic analysis was performed, segmented by country.

Results: The analysis revealed interacting factors that cause cumulative delays, with differences between countries. In all, participants identified networks structural characteristics (deficits in diagnostic resources; geographical accessibility), organizational factors (long waiting times, especially after referral), and limited knowledge of PC doctors, which all lead to delayed referral. In Chile and Colombia, barriers related to care rationing/prioritization policies hampered access to tests, and in Chile, increased delays for non-prioritized conditions. Barriers related to the health system organization also emerged: in Chile, problems related to private services subcontracting and the voucher system for using them; in Colombia, the management of care by insurers (authorizations; fragmented and short-term contracting of providers); and in Ecuador, health system underfunding. The barriers mostly affected the elderly, those with low socioeconomic status, limited social support networks, and rural areas residents.

Conclusions: The results reveal significant barriers in access to timely cancer diagnosis, which can and should be addressed with specific cancer diagnosis policies and general measures that strengthen public healthcare systems and networks.

Key messages:

- Key health system factors influencing provider delays in cancer diagnosis are identified.
- Evidence is provided for the design of policies to improve timely cancer diagnosis in studied countries.

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Integrated care in the Baltic states over a 5-year period: progress, challenges and future directions

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Person-centered, multidisciplinary care is key to addressing evolving complex health needs. In Estonia, Latvia, and Lithuania, this pursuit of integrated care has gained momentum as an innovative approach to allocate resources more efficiently and improve patient outcomes. This study investigates the progress of integrating care in the Baltic countries from 2019 to 2024. It details key learnings, particularly for small European countries with limited resources. The Health Systems and Policy Monitor Network of the European Observatory on Health Systems and Policies undertook a cross-country study to better understand the progress in care integration in the Baltics. The Network's Baltic country experts completed a 21-item questionnaire on the adoption of integrated care reforms. Responses were analyzed to capture reform characteristics and commonalities, countries' political environments and their conduciveness to the uptake of integrated care. Country-specific experiences with the implementation of integrated care were further explored via case studies of pilot programs over the five years. The pace of implementing integrating care reforms varied in each country. Existing regulatory barriers, workforce challenges and payment schemes have impeded integration efforts across health and social care. Despite these obstacles, the political commitment to new and innovative service delivery and collaboration for chronic care management underscores an important prerequisite toward achieving more integrated and person-centered healthcare. The three case studies illustrate the hurdles that come with shifting care settings and expanding roles for some workers. Findings stress the role for integrated care to address organisational challenges in the Baltics. This study highlights innovative approaches and long-running efforts to provide multidisciplinary care for complex-needs patients and the implications of their results for broader health system adoption.

Key messages:

- Small countries like the Baltics face structural challenges in integrating care to improve outcomes and efficiency.
- Investment and innovative care approaches are key to further advancements.

Abstract citation ID: ckae144.228
Inter-regional Hospital Patients' mobility: Is co-operation better than competition?

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Background: According to Italian law, citizens are free to choose their preferred place of care across the national territory. This study aims to analyze the associations between patients' mobility between Tuscany (Italy) and other Italian regions and the complexity of Diagnosis Related Groups (DRGs) provided for these hospitalizations.

Methods: A retrospective study was conducted using 2019 Hospital Discharge Cards data of Tuscany provided by the Italian Ministry of Health. The surgical DRGs of each Major Diagnostic Categories (MDCs) were considered according to high specialty (HS) and non-high specialty (N-HS). For each MDCs, patients' attractions, and escapes to bordering and non-bordering regions with Tuscany were associated with HS and N-HS surgical discharge DRGs by using the Odds Ratio. The analysis was performed using STATA software, and the significance level was set at 95%.

Results: For Digestive Diseases, patients from non-border regions were more likely to be attracted to Tuscan hospitals for HS DRGs (OR: 1.37 95%CI: 1.08-1.74; $p < 0,05$), while for Musculoskeletal Diseases those from non-border regions were less likely to be attracted for HS DRGs (OR: 0.51 95%CI: 0.47-0.56; $p < 0,05$). For Nervous Diseases (OR: 3.08 95%CI: 2.18-4.37; $p < 0,05$), for Ear, Nose, Mouth And Throat Diseases (OR: 2.41 95%CI: 1.52-5.03; $p < 0,05$) and for Hepatobiliary And Pancreas Diseases (OR: 4.55 95%CI: 2.71-7.68; $p < 0,05$), Tuscan patients were more likely to escape to non-border regions for HS DRGs, while for Musculoskeletal Diseases (OR: 0.76 95%CI: 0.68-0.84; $p < 0,05$) they were less likely to be admitted to non-border regions for HS DRGs.

Conclusions: The results suggest the necessity of establishing mobility agreements between regions, particularly for high-specialty DRGs. In fact, the provision of mobility care economically benefits the receiving (creditor) region, which provides the medical service, but is not advantageous to the patient's region of residence (debtor).

Key messages:

- Monitoring mobility flows is critical to improve identify possible lack of supply of resources.
- There is a need to develop interregional mobility agreements to ensure better cooperation between different regional health systems.

Abstract citation ID: ckae144.229
Psychiatric comorbidity and hospitalization outcomes for AMI in portuguese public hospitals

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Background: Severe mental health disorders directly affect quality of life but may also indirectly relate to physical diseases and their prognosis. We test this hypothesis for the specific case of acute myocardial infarction (AMI), postulating a longer in-patient stay and an excess in-hospital mortality among patients suffering psychiatric comorbidities (PC).

Methods: A retrospective observational study was conducted using secondary data from public Portuguese hospitals, for all patients with a primary diagnosis of AMI (12,213 patients aged 18-80, for the years 2017-18). We used linear and logistic regression to model length of stay (LoS) and in-hospital mortality, respectively. Having at least one psychiatric comorbidity was the explanatory variable, and models were adjusted for age, sex, and the Charlson Comorbidity Index.

Results: The prevalence of PC was 12.95%. The in-hospital mortality rate was significantly higher in the group with PC (4.43%, OR = 1.372, 95%CI=1.041-1.784), than in the group without PC (3,38%). Stays were significantly longer among those with PC (mean=7.69 days), compared to those without PC (mean=6.87 days; adjusted β-coefficient=0.098, 95%CI=0.056-0.141).

Conclusions: Patients with AMI and comorbid mental disorders have poorer hospitalization outcomes than those without PC. This emphasizes the importance of promoting effective management strategies for comorbid psychiatric disorder, for instance, by improving the integration of mental health care in general hospitals, and empowering healthcare professionals to recognize and manage patients with PC.

Key messages:

- Psychiatric comorbidity is related to longer inpatient stays and higher mortality risk among patients with AMI.
- Efforts to integrate mental health care in general hospitals should be maintained.

Abstract citation ID: ckae144.230
Results from the Swiss Cohort of Healthcare Professionals: Intention to stay and well-being

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Background: In the context of personnel shortages and high turnover rates in the healthcare sector, the Swiss COhort of Healthcare Professionals and Informal CAregivers (SCOHPICA) seeks to understand which factors act as determinants of professionals' intent to stay in their profession and well-being, and to monitor their trajectories.

Methods: This cross-sectional study used baseline data from a prospective open cohort including any type of healthcare professionals practicing in Switzerland. They were invited to complete an online questionnaire measuring their intent to stay in their profession and well-being, several determinants of these, sociodemographic and socioprofessional characteristics, and they were able provide open comments. Standard statistical and thematic analyses were performed where appropriate.

Results: 5927 participants completed the 2022 (n = 1707) or 2023 (n = 4220) questionnaire, and 1811 left open comments. Preliminary results revealed that the main determinants of intention to stay and well-being were work-life balance, opportunities for development, and meaning of work. Moreover, nine sub-themes were identified in open comments, grouped under three main themes: 1) working hours and private life; 2) working conditions, relating to administrative work, salary, health and staffing issues, participants with a low intent to stay being overrepresented in the last two; 3) career paths, exploring employer changes or training recongnition.

Conclusions: Finding a balance between constraints inherent to the healthcare professions and professionals' social life as well as reintroducing sense at work are key aspects that policymakers should take into account to brake turnover, retain healthcare professionals and make health professions attractive again.

Key messages:

- Work-life balance, opportunities for development, and meaning of work appeared to be reasons to stay in healthcare professions.
- People thinking of leaving commented on staffing and their own health.

Abstract citation ID: ckae144.231
Agricultural activities reduce the risk of requiring long-term care among older Japanese

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Introduction: Controlling the risks that lead to requiring long-term care for the older adults is a crucial medical and socio-economic issue. This study investigated the impact of agricultural activities (AAs) on the risk of requiring long-term care.

Methods: A 5-year follow-up was conducted on 1,009 healthy individuals aged 65-80 years (mean age 72 years; 44% men) living in a rural area (Wakayama, Japan). Requiring long-term care was assessed as requiring support or nursing care (RSNC) according to the Japanese criteria. Health status including frailty and metabolic syndrome were also assessed using Japanese criteria. Work status and lifestyle habits were assessed using self-administered questionnaires. The main outcome was the probability of RSNC. COX proportional hazards regressions were performed, stratified by occupation (agricultural worker or other) or frequency of AAs (none, less than or >150 days/year), adjusted for sex, age, frailty, metabolic syndrome and household as possible confounding factors.

Results: Approximately 35% of the participants were in agriculture, forestry, and fisheries as occupation, and 78% engaged in AAs. A total of 85 participants RSNC and 39 deaths were observed during the follow-up. The cumulative survival probability did not differ according to occupation or frequency of AAs, whereas the probability of RSNC was significantly lower in participants engaged in AAs (hazard ratio 0.37 [95% CI 0.22, 0.62]; <150 days/year, 0.29 [95% CI 0.17, 0.50]; >150 days/year). Participants engaged in AAs were significantly more likely to engage in low- and vigorous-intensity physical activity, and to participate in industry and community organizations and relating events.

Conclusions: These findings suggest that AAs may promote a physically and socially active lifestyle, independent of frailty or metabolic syndrome, and reduce the risk of RSNC.

Key messages:

- Prevention of long-term care is important in the older population.
- A lifestyle associated with agricultural activities may contribute to healthy aging.

4.I. Pitch presentations: Insights for improving public health interventions

Abstract citation ID: ckae144.232
Lipids and glycemia profiles in adults: the Italian Health Examination Survey 2023 - CUORE Project

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Background: WHO recommends monitoring glycemic and lipid profiles in the population to control and prevent NCDs. The target for glycemic/diabetes is to halt the rise within 2025 (2010 as baseline). The Italian Ministry of Health (MoH) has strengthened prevention/health promotion and supported their periodic assessment through national health examination surveys (HESs), financed by MoH-CCM and conducted within the CUORE Project.
Methods: In 2023 a new HES started including the assessment of fasting serum glycemia, total and HDL cholesterolemia and triglyceridemia. Up to now, data from random samples of residents in 7 Regions (of 20 regions) distributed in North, Centre and South of Italy and aged 35-74 years are available (687 men, 704 women). Glycemia and lipids profiles were assayed by a central lab. Elevated glycemia/diabetes (DM): glycemia $\geq$ 126 mg/dl and/or on medication. Elevated total cholesterol/hypercholesterolemia (HChol): total cholesterol $\geq$ 240 mg/dl and/or on medication.
Results: Glycemia mean level was 97 mg/dl (95%CI: 95-99) in men and 90 mg/dl (89-91) in women; DM resulted 10% (5-14) and 8% (4-12) respectively. Among those with DM, about 2 in 10 men and 1 in 10 women were unaware; about 2 and 3 of 10 were aware but not on medication, respectively. Total cholesterol mean level was 192 mg/dl (189-195) in men and 200 (197-202) in women; HChol resulted 24% (18-31) and 29% (22-36) respectively. Mean level of HDL cholesterol was 48 mg/dl (48-49) in men and 59 mg/dl (58-60) in women; mean level of triglycerides was 121 mg/dl (115-126) and 95 mg/dl (92-98) respectively. Among those with HChol, about 1 in 10 men and 2 in 10 women were unaware; about 2 of 10 were aware but not on medication.
Conclusions: Compared to 2008, these preliminary data showed a significant decrease of glycemia, total cholesterol and triglycerides means values both in men and women, as well as of DM and HChol prevalence, but improvements on their awareness and control are still necessary.
Key messages:
- In the Italian adult general population significant improvements in lipids and glycemia profiles occurred compared to 15 years ago.
- The implementation of periodic health examination surveys is important for estimating indicators based on objective measurements and for estimating awareness and control of risk conditions.

Abstract citation ID: ckae144.233
Association between a new healthcare access index and life expectancy in Japan: A nationwide study

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Background: Access to medical institutions is crucial to healthcare systems. Japan has universal health coverage and unrestricted access to medical institutions; patients can visit any medical institution without requiring referral letters. We developed the Japan- Spatial Accessibility Scale for Medical Institutions (J-AMI) to provide integrated spatial accessibility to multiple sized healthcare institutions. We also examined the association between the J-AMI and life expectancy.
Methods: This study included 220,621 administrative census mesh blocks defined by address; 89,248 clinics and 8,181 hospitals across 47 provinces in Japan, with a total population of approximately 126 million. The road distance between the centre of each block and the nearest clinic was calculated and scored every 1 km. Hospitals were classified as secondary and tertiary hospitals based on the availability of emergency and critical care centres. Secondary and tertiary hospitals were scored every 2 and 4 km, respectively. The scores for clinics and secondary and tertiary hospitals (1-8 points each) were aggregated and scored using a mesh. The population-weighted municipal J-AMI (PWM-J-AMI) scores were calculated for each municipality. Correlations between the PWM-J-AMI scores and life expectancy by municipality were examined. Geographic information was analysed using ArcGIS Pro.
Results: Median life expectancies for male and female individuals were 81.4 years (interquartile range [IQR]: 80.9-81.9 years) and 87.5 years (IQR: 87.2-88.0 years), respectively. The median PWM-J-AMI score was 9.5 (IQR: 5.4-14.5). The PWM-J-AMI scores were negatively correlated with male and female individual's life expectancy by municipality ($r=-0.29$, $p < 0.01$ and $r = 0.18$, $p < 0.01$, respectively).
Conclusions: The results suggest that the better a region's access to medical care, the longer its life expectancy. Efficient medical institution allocation and telemedicine promotion may be essential to improving access.
Key messages:
- We developed the Japan- Spatial Accessibility Scale for Medical Institutions (J-AMI) to provide integrated spatial accessibility to multiple sized healthcare institutions, using ArcGIS Pro.
- The PWM-J-AMI scores were negatively correlated with male and female individual's life expectancy by municipality, which suggest that the better a region's access, the longer its life expectancy.

Abstract citation ID: ckae144.234
Food additive monosodium glutamate and risk of cardiovascular diseases - NutriNet-Santé cohort

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Background: One may add monosodium glutamate (MSG) to food for its flavour-enhancing properties. However, its implication in long-term cardiovascular health is uncertain due to a lack of precise epidemiological evidence. This study aimed to investigate the associations between food additive glutamate exposures and cardiovascular disease (CVD) risk, including cerebrovascular disease (CVA) and coronary heart disease (CHD) risks in a large prospective cohort of French adults.

Methods: Participants (n = 108,932, 79.3% women, mean age=42.4 years, SD = 14.5) were 15 years old and above from the French NutriNet-Santé prospective cohort (2009-2023). We assessed dietary intakes using repeated 24h-dietary records and exposure to food additive glutamate using food composition databases and laboratory assays. We characterised associations between cumulative time-dependent continuous exposures to total glutamate, natural glutamic acid, MSG and risk of CVD, CVA, and CHD using multivariable proportional hazards Cox models adjusted for known risk factors for standardised increments of glutamate intake.

Results: During follow-up (median 7.92 years), 2397, 1113, and 1284 participants were diagnosed with CVD, CVA, and CHD respectively. Higher intakes of naturally occurring glutamic acid (HR per 3000 mg/d increment=1.08, 95% CI [1.01-1.16], p-value=0.03), food additive MSG (HR per 200 mg/d increment=1.05, 95% CI [1.01-1.09], p-value=0.03), and total glutamate (HR per 3000 mg/d increment=1.09, 95% CI [1.01-1.17], p-value=0.02) were associated with higher risks of CHD (p-value for non-linearity>0.6).

Conclusions: This large prospective cohort study revealed positive associations between exposure to the widely used glutamate food additives, especially MSG (E621) and CVD, CVA, and CHD risks.

Key messages:

- This large prospective cohort study revealed positive associations between exposure to the widely used glutamate food additives, especially MSG (E621) and CVD, CVA, and CHD risks.
- If confirmed, our findings regarding MSG could lead to a re-evaluation of the safety of these food additives by European and international public health agencies to improve consumer protection.

Abstract citation ID: ckae144.235
Overdiagnosis of lung cancer in Chinese populations

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Background: Low-dose computed tomography (LDCT) has been widely-used in employee health examinations in China since 2011. This study was designed based on the Cancer Surveillance data to quantify the overdiagnosis of lung cancer due to the introduction of LDCT in Chinese populations.

Methods: This registry-based cohort study included 46,978 incident cases and 34,475 deaths of lung cancer from Pudong New Area of Shanghai, China, during 2002-2020. We calculated the age-standardized rates (ASR) and average annual changes (AAC) of mortality and overall, stage-specific and histological type-specific incidence by sex to evaluate the potential overdiagnosis of lung cancer. We further estimated the numbers and proportions of lung cancer cases attributable to overdiagnosis by sex and period based on the comparison between the shape of the age-specific curves with that prior to the introduction of LDCT in the populations.

Results: The ASR of incidence of lung cancer increased rapidly since 2011 in both men (AAC: 1.90%; 95%CI: 0.87, 2.92) and women (AAC: 4.40%; 95%CI: 3.19, 5.62), whereas the ASR of mortality declined persistently, with AAC of -0.12% (-0.64, 0.39) in men and -0.19% (-0.47, 0.09) in women. The upward trends in incidence were mainly observed in women, for early-stage cancer and for lung adenocarcinoma. Overall, the overdiagnosis rate of lung cancer grew from 22% in 2011-2015 to 50% in 2016-2020 in women. Further analysis demonstrated elevated numbers (proportions) of lung adenocarcinoma cases attributable to overdiagnosis, which increased from 182 (8%) in 2011-2015 to 827(22%) in 2016-2020 in men, and from 1,842 (85%) to 4,171 (89%) in women.

Conclusions: This registry-based cohort study observed considerable and increasing overdiagnosis of lung adenocarcinoma in Chinese men and women. Guideline is urgently needed to maximize the benefits of LDCT screening and reduce the potential overdiagnosis of lung cancer in the populations.

Key messages:

- The secular trends in incidence and mortality of lung cancer in Chinese populations demonstrated the overdiagnosis since 2011, when the LDCT was used as a part of staff health examination in China.
- Overdiagnosis of lung cancer in Chinese populations increased incrementally over time and was mainly observed among women.

Abstract citation ID: ckae144.236
Socioeconomic background and childhood cancer survival in Germany – A nationwide register study

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Introduction: Evidence is accumulating that not all children with cancer have benefitted equally from diagnostic and therapeutic improvements and that socioeconomic conditions are also associated with prognosis - even in high-income countries where equal access to healthcare is presumed. We investigated the association between area-based socioeconomic background and childhood cancer survival in Germany with the ultimate aim to identify groups of children that may benefit from supportive interventions.

Methods: We identified all children with a first cancer diagnosis before the age of 15 years in 1997-2016 from the German Childhood Cancer Registry (N = 35,443). Based on individual residential address information (at diagnosis) we applied the German Index of Socioeconomic Deprivation as measure of area-based socioeconomic background. Using Cox proportional hazards models, we assessed the association between absolute area-based socioeconomic deprivation (AASD) and ten-year overall survival (OS) to estimate hazard ratios (HR) and corresponding 95% confidence intervals (CI).

Results: The Cox analysis (adjusted for diagnostic year, birth year and place of residence) revealed a null association for AASD and OS from all cancers combined (HR = 1.00, 95% CI 0.97; 1.03). Among children diagnosed with acute myeloid leukemia and germ cell tumors, a higher AASD (implying more severe levels of deprivation) was associated with worse survival, particularly pronounced in boys (HR = 1.18, 95% CI 1.01; 1.37; HR = 1.67, 95% CI 1.13; 2.45, respectively). The opposite was observed for childhood CNS tumours, yielding worse survival by decreasing AASD (HR = 0.93, 95% CI 0.88; 0.98) for both malignant and non-malignant CNS tumours.

Conclusions: Contrary to reports from other European countries, we found little evidence for pronounced social inequalities in childhood cancer survival in Germany based on a composite score, with inconsistent patterns across cancer types and age at diagnosis.

Key messages:

- We found little evidence for pronounced social inequalities in childhood cancer survival in Germany on the area-based level.
- Our findings indicated inconsistent patterns of social inequalities across cancer types and age at diagnosis.and age at diagnosis.

Abstract citation ID: ckae144.237
Polycystic ovary syndrome and labor market attachment in Swedish women

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Background: Polycystic ovary syndrome (PCOS) is a common endocrine disorder in women of fertile age and is associated with several burdensome comorbidities. We use Swedish longitudinal register data to identify and compare clusters of employment trajectories among working age women, in order to investigate how PCOS affects labor market attachment.

Data and Methods: A cohort of 157,356 women born in 1975-1977 were followed annually between the ages of 30 and 39. Labor market states were constructed by combining detailed data on various types of earned income. PCOS was identified through national inpatient and outpatient registers. Sociodemographic covariates (civil status, region of origin, highest attained education, number of children) were measured at the age of 29 years. Sequence analysis was used to identify clusters of typical labor market trajectories. Multinomial logistic regression was employed to assess the associations between being diagnosed with PCOS and belonging to the identified clusters.

Results: Women with PCOS spent less time in employment and were more dependent on sickness benefits during the follow-up time than those without PCOS. Five clusters of trajectories were identified: stable employment, education into employment, labor market exclusion, continuous unstable position, long-term sickness. Compared to being in stable employment cluster, women diagnosed with PCOS were 97% more likely to experience long-term sickness (RRR (relative risk ratio): 1.97 [CI: 1.90-2.05]), and had 11% higher risk of belonging to education into employment (RRR: 1.11 [CI: 1.07-1.15]) and a 4% higher risk (RRR: 1.04 [CI: 1.00-1.09]) of experiencing labor market exclusion. The magnitude of the association increased for education into employment and labor market exclusion after adjusting for covariates.

Conclusions: PCOS can lead to disadvantaged labor market outcomes and better strategies are needed in order to prevent economic exclusion among women diagnosed with the condition.

Key messages:

- PCOS leads to disadvantaged labor market outcomes.
- Women with PCOS may experience economic exclusion.

Abstract citation ID: ckae144.238
Dementia risk factors and cognitive function in a nationwide population-based sample aged 65+

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Background: Cognitive function is fundamental to healthy aging and independent living. As there is no cure for dementia, prevention of risk factors (e. g. physical inactivity, obesity, hypertension, diabetes, social isolation, depression) is crucial. The aim of our study was to analyze selected dementia risk factors and their association with cognitive function in people aged 65 years and older.

Methods: Cross-sectional data from the nationally representative examination Study on Health of Older People in Germany (Gesundheit 65+) conducted between 2022-2023 by the Robert Koch Institute ($n = 1.493$; 48% women; mean age 78.8 years). Cognitive function was assessed by the Letter Digit Substitution Test (LDST), a measure of general speed of information processing, and of the Consortium to Establish a Registry for Alzheimer's Disease (CERAD) 10-word list delayed recall (WLR), a measure of memory. Weighted associations between age, sex, education, dementia risk scores and z-standardized test scores were examined using linear regression analysis.

Results: Higher age, male sex and lower level of education were significantly associated with lower z-scores in both tests (all $p < 0.001$). In separate models, all adjusted for age, sex and education, social isolation was associated with lower performance on both LDST (ß=-0.22; 95% confidence interval -0.42, -0.01) and CERAD WLR (ß=-0.21; -0.41, -0.01); depressive symptoms were associated with lower LDST z-scores (ß=-0.40; -0.67, -0.13), and physical inactivity with lower CERAD WLR z-scores (ß=-0.12; -0.24, -0.01). Obesity, hypertension, and diabetes were not significantly associated with any test.

Conclusions: Our findings from this nationwide general population study of old and very old adults show a clustering of reduced cognitive function with social isolation, symptoms of mental health impairments, and physical inactivity in old age which call for coordinated intersectoral health promotion and prevention activities.

Key messages:

- The clustering of reduced cognition with dementia risk factors calls for intersectoral health actions.
- Limitations in cognition should only be defined by age-, sex-, and education-specific norms.

Abstract citation ID: ckae144.239
Malnutrition in Guinea-Bissau: a country wide representative cross-sectional study

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Background: According to the WHO, malnutrition refers to deficiency, excess, or imbalance in a person's intake of energy and/or nutrients. Children under five are especially vulnerable to malnutrition. The problem is widespread, but it is particularly prevalent in West African countries, where a prevalence of 30% stunting, 6.7% wasting and 2.4% overweight was described in 2022. In this study, we aimed to evaluate malnutrition in Guinea-Bissau (GB), a low-income country in West Africa.

Methods: We conducted a cross-sectional study between May and June 2023 on a representative sample of 1608 children aged 6 to 59 months, who had access to health care in all 11 regions of GB. Nutritional status was assessed by evaluating weight for height/length, weight for age, height/length for age, and hemoglobin concentration was determined using a portable hemoglobin analyzer. Furthermore, semi-structured questionnaires were applied to children's parents, including questions on sociodemographic and

behavioral factors, such as ethnicity, parental literacy, health care, and dietary patterns.
Results: 802 boys and 806 girls were included in the study, with a mean age of 26 months. Malnutrition rates were comparable to those described in other West African countries. We found wasting rates of 8,3%, stunting rates of 24,3%, low weight rates of 17,4%, and overweight rates of 2,4% among children under five. Importantly, 55.9% of the children had anemia: 23.6% had mild anemia, 31.1% had moderate anemia, and 1.2% had severe anemia. Statistical analyses are underway to investigate factors associated with malnutrition.
Conclusions: An important challenge in global health is combating malnutrition in all its forms. The identified prevalence of malnutrition in GB is high and emphasizes the importance of developing strategies and policies with local authorities so that the Sustainable Development Goals and Global Goals of Nutrition can be achieved and health outcomes improved.
Key messages:

- Collaboration essential: researchers, policymakers, healthcare, and local authorities must unite for targeted malnutrition interventions.
- Sustainable development in GB hinges on addressing malnutrition among its children through concerted efforts.

4.K. Scientific session: The realm of the information ecosystem and its public health impact

Abstract citation ID: ckae144.240

Organised by: EUPHA-HL, -GH, -WGGE, WHO Collaborating Centre for Health Literacy, Technical University of Munich (Germany), University of West Attica (Greece), Harvard University (UK)
Chair persons: Orkan Okan (EUPHA-HL), Elena Petelos (EUPHA-HTA, EUPHA-GH)
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Workshop background: As a field of science, study, practice, and policy, infodemic management has emerged during the Covid-19 pandemic but has since been emancipated and can be translated to any topic where information ecosystems play a vital role. In particular relevant to public health, infodemic managers have grown in the ranks of institutes of public health, academic institutions, UN agencies and civil society organizations, tackling outbreaks and public health issues as wide as mpox, Marburg, teen mental health, chronic diseases, seasonal influenza, Ebola and routine immunization. Aiming at improving public health strategies, they are responsible for exploring and investigating personal and organizational (health) information ecosystem, generating evidence, identifying patterns of communication and information flow, tackling the onset and distribution of circulating mis- and disinformation, better understanding information voids, and respond to citizen needs concerning information demands around emergencies.
In this workshop, we will focus on several common challenges associated with implementing whole-of-society interventions and strategies for resilience to health misinformation. Solving these challenges, which often are too big just for the health system to solve, will sometimes require creativity, out-of-the-box thinking as well as cross-disciplinary perspectives and new partnerships. Infodemics are also a global challenge that can easily cross borders, which is why country-to-country discussions of experiences by participants is encouraged-while no previous infodemic management experience is required.
Workshop objectives: The workshop will be organized as a research symposium with five speakers from infodemic management, health information, and health literacy. They will provide a solid introduction to infodemic management from different perspectives and angles.
(i) The first presentation will introduce a study on health information seeking and health literacy in midwife-led care and the modern information environment.
(ii) The second presentation will discuss how fact-checking organizations can partner within public health for a healthier internet.
(iii) The third presentation will focus on unravelling misinformation by investigating the associations between health literacy and resilience.
(iv) The fourth presentation will present a novel web-platform for credible health information and tackling misinformation.
(v) The fifth presentation focuses on the impact of misinformation on social media in the context of natural disasters.
The format of this workshop will be 5x8-minute presentations, including Q&A with the audiences, followed by a 20-minute panel discussion, reflecting the relevance of the results to public health research, practice and policy.
Key messages:

- Infodemic management seeks to quickly understand the public's information and health needs improve future public health responses, especially during emergencies.
- Whole-of-society approaches are needed to address and mitigate harms caused by infodemics by developing closer partnerships and understanding between health systems and the public.

Abstract citation ID: ckae144.241
Health information seeking and health literacy in midwife-led care and the modern information environment

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Background: This review reports on how midwives are affected by the modern digital information environment, including health misinformation, and how their knowledge or competencies assist them in navigating this for themselves and their clients, especially those who are more vulnerable and experience inequities in healthcare.
Methods: Leveraging a PRISMA-based systematic review, the project identifies the facilitators and barriers that the modern digital information environment poses to midwives and the care they provide to their clients. The search strategy of the peer-reviewed literature examines articles related to midwives and misinformation, social media, information environment, digital health, health information, migrant women and other related keywords that surface in searches. The timeframe from which published articles will be identified for possible inclusion are from Jan 1, 2020 to March 31, 2024.
Results: Both midwives and the clients they care for experience challenges in navigating the digital information environment and

addressing health-related misinformation on reproductive health and pregnancy-related topics.

Conclusions: Midwives should receive strengthened training on digital literacy to improve the care they provide to clients and help their clients navigate a confusing and rapidly evolving information environment. Through digital and in-person interactions with their clients, midwives can improve their clients' digital information, and health literacies.

Abstract citation ID: ckae144.242

How factchecking organizations can partner within public health for a healthier internet

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Background: Health concerns, narratives and misinformation are growing in digital spaces, which makes them also a vulnerability to being hijacked by disinformation. A workshop was held at GlobalFact11, the global factchecking summit, to take a pulse among the participants on their exposure and work with health misinformation, provide a public health perspective on the role of factchecking, and equip participants with building a business case for developing health-related factchecking programmes.

Methods: A pre-summit survey of IFCN members and summit participants was conducted to better tune the design of the discussion in the workshop. The workshop included interactive polling and a discussion of case-based scenarios and real-world examples.

Results: A business case for investing into health-claim fact-checking can consider needs of public health organizations from a variety of perspectives. (1) The global health security agenda, and the politicization of health and hijacking in disinformation influence campaigns; (2) Contributing data for public health infodemic insights reports in formats that provide value to fact-checking in public health context; (3) Developing community resilience programmes by combining fact-checking with community-based interventions; (4) Building partnerships with public health organizations (for fact-checking, capacity building, community media and information literacy, research).

Conclusions: Many fact-checking organizations got involved in public health during the COVID-19 pandemic. However, they want to access more public health expertise, tools, and partnership modalities that would enable them a more sustainable effort in covering health topics, especially beyond infectious disease.

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Unravelling misinformation: investigating the associations between health literacy and resilience

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Background: Resilience, the capacity to adapt to adversity, encompasses navigating challenges in health information. Despite the profound impact of health misinformation on behavior and trust in healthcare systems, effective tools to enhance resilience against misinformation remain scarce. Health literacy (HL) is pivotal for adeptly navigating information landscapes. While HL principles facilitate critical evaluation of health information, their link to resilience against misinformation has received inadequate attention. This study delves into the associations between HL and resilience to misinformation.

Methods: Within the BeE-school project, a randomized controlled trial in primary schools serving vulnerable populations, we developed a questionnaire to assess parental resilience to misinformation. Two dimensions were examined: self-regulation regarding misinformation and stress resistance to misinformation, stratified into low and high resilience categories. Parental HL was evaluated using the HLS-Q12 tool. General HL and three specific domains-health promotion, disease prevention, and healthcare management-were assessed. HL scores ranged from 0 to 100. Binary regression analyses examined the association between HL and resilience to misinformation.

Results: Parents with higher HL levels demonstrated significantly greater resilience to misinformation, with odds ratios ranging from 1.039 to 1.049 across different HL dimensions. These associations persisted after adjusting for potential confounders, including parental education and respondent sex.

Conclusions: This study highlights the potential role of health literacy in enhancing individuals' resilience to misinformation. By promoting HL, individuals can develop critical thinking abilities necessary for navigating complex information landscapes effectively. Empowering communities to critically assess health information fosters resilience to misinformation and informed decision-making, thereby advancing public health.

Abstract citation ID: ckae144.244

InfoQ: Certifying credible providers of digital health information

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Background: Access to accurate health information is crucial. Despite the abundance of information online, sorting through it can be overwhelming, especially with the spread of misinformation. This poses a threat to public health and challenges health literacy. Efforts to combat misinformation are struggling due to the rapid growth of available information. We need complementary strategies, such as promoting trustworthy information sources. An initiative by Bertelsmann Stiftung, aims to counter misinformation by promoting health information from credible sources.

Methods: In 2021, the U.S. National Academy of Medicine outlined principles for identifying credible health information sources, endorsed globally by the WHO and embraced by the social media industry. However, these principles lack operationalization, leaving indicators for credibility undefined. To address this gap, Bertelsmann Stiftung, in collaboration with German experts, conducted workshops in 2023 to draft evaluation criteria. Their ongoing work, alongside initiatives by the Careum Foundation and Gesundheit Österreich GmbH will be presented.

Results: The criteria focus on structure (e.g., the expertise of providers) and process (e.g., methods for identifying relevant evidence) rather than outcome (i.e., the quality of each piece of information), and are based on the domains science-basis, transparency and legitimacy.

Mandatory and complementary criteria allow a two-step approach to identify health information providers of good quality (meeting all mandatory criteria) and excellent quality (meeting all criteria).

Conclusions: These criteria build the basis of the establishment of an international certification system and represent a crucial measure to combat misinformation and promote population health literacy. Various international partners and social platforms have already reached a strong consensus on the relevance of the project goals and expressed their willingness to deepen their efforts in this regard.

Abstract citation ID: ckae144.245

The impact of misinformation on social media in the context of natural disasters

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Background: Rapid dissemination of information during natural disasters plays a crucial role in managing public responses and ensuring safety. Social media can be a tool to disseminate lifesaving information but is also a ground for the propagation of misinformation. This study examines the impact of misinformation spread through social media in the context of natural disasters and explores related dynamics, effects, and countermeasures.

Methods: Cochrane and PRISMA recommendations were used for protocol development and sound reporting. Key terms related to misinformation, social media and natural disasters were used, with the search conducted in PubMed, and without time limitation for adequate capture. Only research papers in English were eligible for inclusion. Journal and article quality were considered. No restriction was imposed on country or age of target populations.

Results: Findings reveal significant influence of misinformation on public behaviour during disasters, often leading to panic and hindering effective disaster management. Specific characteristics of misinformation were identified, incl. its origins and spread mechanisms; proximity -both spatial and social- was found to be a critical factor in terms of spread and reach. Emerging evidence highlights the importance of trusted sources to effectively counter misinformation, yet response time remains a critical challenge. Technical detection of misinformation can help combat it but requires further enhancements for real-time application in diverse disaster scenarios.

Conclusions: Misinformation on social media poses complex challenges to disaster management, affecting both individual and societal resilience. Proactive communication strategies are critical, as is the development of advanced verification tools, and public education strategies to combat misinformation. Future research should focus on refining strategies to enhance disaster preparedness and response, ensuring a resilient and well-informed public.

4.L. Skills building seminar: Skills building seminar: Enhancing your elevator pitch: persuading a policymaker in seconds

Abstract citation ID: ckae144.246

Organised by: EUPHAnxt, EUPHA
Chair persons: Monica Brinzac (EUPHAnxt), Jinane Ghattas (EUPHAnxt)
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Numerous public health researchers aim to influence evidence-based policymaking with their scientific discoveries. However, bridging the gap between research and policy remains a significant challenge. While researchers excel in data analysis and publishing, effectively communicating with policymakers requires additional skills. One crucial skill is the ability to succinctly present research findings, such as in an elevator pitch. In this seminar, top-scoring abstract presenters will have the opportunity to convey their work in just 60 seconds to a panel of policymakers and politicians. Through a hands-on approach, both presenters and attendees will learn, as each pitch receives immediate feedback from the panel. Are they interested? Do they remember the key message? And if all goes well, do you get an invitation to come back and present more of your work? Since several years the European Public Health Association (EUPHA) has been organising skills-building seminars on the elevator pitch. Building forward on those previous five successful and well-attended workshops, the current workshop will follow up on this series and take forward where the previous editions ended. Lessons learned at the previous elevator pitch workshops:

- Have a clear ask (keep it simple) and show enthusiasm.
- Appeal to the policymaker's own interests and priorities.
- Spell out how action will be beneficial for the policymaker.
- Be aware of upcoming elections.
- Build a relationship with the assistants of politicians.
- Consider the 'policy window'.
- Make the comparison with the policy plan.
- Propose an action the politician should undertake.
- Identify the relevant stakeholders and groups affected by the problem.

For this sixth edition we take the elevator pitch to the next level. Whereas previous editions allowed pitches up to 2 minutes, the current seminar will set the timer at 60 seconds. The previous editions showed that keeping the pitch very short was more successful. The session will be wrapped up by a key note with reflections on the pitches exercise and linking this to what the literature says about influencing healthy policy making.

Key messages:

- The elevator pitch is a useful skill to have for public health researchers to facilitate the outcomes of their research feed into health policies.
- There are numerous tools available to effectively communicate public health messages to policymakers and promote evidence-informed policy making.

Speakers/Panelists:
Charlotte Marchandise
EUPHA

4.M. Pitch presentations: Insights into mental health

Abstract citation ID: ckae144.247

Childhood socioeconomic status and depression in adulthood: systematic review

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Background: Low socioeconomic status (SES) is generally associated with poorer mental health, particularly depression. We carried out a systematic review to address the question of whether childhood SES is associated with depression in adulthood and the potential pathways which may explain this association.

Methods: We followed a systematic search strategy in PubMed and Scopus with specific inclusion and exclusion criteria. After removing duplicates, studies were screened for eligibility and quality was assessed independently by two assessors using the Newcastle-Ottawa scale.

Results: After the selection process, 20 observational studies (7 cohort and 13 cross-sectional) that examine the association between SES during childhood and depression in adulthood were included in the systematic review. The most common measures of childhood SES were parental education, occupation or family income, estimated subjectively and/or objectively. In 17 of the studies an inverse relationship between childhood SES and depression was shown. In 17 studies, models were employed to demonstrate the possible pathways which explain the relationship between childhood SES and depressive symptoms. The most important mediators were adult SES, psychosocial factors, childhood trauma and physical health.

Conclusions: Our findings reveal the long-term association between childhood socioeconomic conditions and depression later in life. Suboptimal childhood SES seems to be an important risk factor for depression in adulthood. Improving childhood socioeconomic conditions can potentially have lasting effects well beyond childhood.

Key messages:

- Protecting children against the effects of socioeconomic adversity could reduce depression in adult life.
- Policy makers should direct resources towards alleviating childhood disadvantage for promoting health in adulthood.

Abstract citation ID: ckae144.248

The impacts of UK coronavirus virus job retention (furlough) scheme on mental health

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Background: In March 2020, the UK government introduced the pandemic-induced job retention scheme, known as furlough. The scheme provided grants to employers, to retain their workforce by subsidizing up to 80% of wages. While the scheme was aimed at preventing unemployment during lockdowns, it also came with wage loss, with implications for mental health for affected workers, although evidence is limited. Therefore, we aimed to explore the impact of the furlough scheme on mental health in the UK

Methods: We explored longitudinal data from the UK's Understanding Society Survey between 2019 and 2021, including nine COVID waves. We matched a sample of furloughed and non-furloughed workers using various covariates. Mental health was measured using General Health Questionnaire (GHQ-12, scored 0-36). We estimated difference-in-differences models to explore the heterogeneous causal effects on mental health of workers participation and exit from the furlough scheme. We further considered the effects of being furloughed contrasted with becoming unemployed during the pandemic

Results: The estimated average treatment effect (-0.53 [95% CI: -0.91 - -0.16]) suggests that being furloughed had significant positive impact on mental health, while exiting from furlough due to changes requiring workers to work minimum hours increased the incidence of poor mental health 0.41 [95% CI: -0.11 - 0.92]. However, compared to becoming unemployed, being furloughed improved mental health by around -0.42 [95% CI: -0.75 - -0.09] GHQ points.

Conclusions: Policies that mitigate the economic impact of the pandemic also had psychological effects on the population. Even though there were mixed effects of coronavirus-induced social restrictions and lockdowns. Furlough reduced the psychological risks associated with the pandemic job loss, while exiting the scheme increased the incidence of poor mental health. This could be explained by substantial decline in the generosity of the scheme by up to 40%.

Key messages:

- Job loss during the pandemic had deteriorating mental health effects.
- Government contribution to furloughed workers' wages minimizes the incidence of mental health distress.

Abstract citation ID: ckae144.249

Disparities in the Incidence and Prevalence of Psychotic Disorders Between With and Without Disabled

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Background: Numerous epidemiological studies on psychotic disorders have been conducted, however, most of the studies were conducted from an etiological perspective, and conducted with small sample sizes relatively few focused on all types of disabled, especially with a long observation period. Moreover, no study has included the whole adult population of a country.

Methods: This study was conducted using a data set linking the Korean National Health Insurance Service database, and disability registration data. Age-standardized incidence or prevalence rates were calculated during 2008-2017 according to the presence, severity, and type of the disability. Factors associated with psychotic disorders were examined by multivariate logistic regression.

Results: The age-standardized incidence and prevalence of psychotic disorders was higher among the disabled than among those without disabled across all years, especially those with severe disabled, and intellectual disabled. The gap in the prevalence of psychotic disorders between the disabled and the non-disabled has widened over time. The severe disabled and intellectual disabled showed the strongest associations with the incidence(aOR=3.04,95% CI = 2.93-3.15;aOR=6.18, 95% CI = 5.90-6.47) and prevalence(aOR=7.64,95% CI = 7.58-7.69;aOR=53.62, 95% CI = 53.04-54.22) of psychotic disorders.

Conclusions: The incidence and prevalence of psychotic disorders were higher in people with disabled, especially those with severe disabled, and intellectual disabled. The government must increase effort to narrow the gap between the non-disabled and disabled.

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Key messages:

- The incidence and prevalence of psychotic disorders were higher in the disabled, especially severe disabled, and intellectual disabled.
- Important reasons for these finding may be the 'low socioeconomic status' and 'mental health' of the disabled.

Abstract citation ID: ckae144.250

Factors Influencing Depression in People with Disabilities: Individual and Interpersonal Levels

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Depression is an increasingly important social problem, and this also applies to the disabled, a health-vulnerable group. Although the distribution and influencing factors of depression may be different among the disabled population (young adults vs. the elderly, older adults with disabilities vs. disabilities due to old age), only the high prevalence of depression among the disabled is generally reported. This study seeks to determine the distribution and influencing factors of depression in disabled people according to sociodemographic standards. This study employed data from the 2021 Panel Survey on People with Disabilities (National Unit Survey) to investigate the influence of individual-level factors (health behaviors, health level, environment) and interpersonal-level factors (social network) on depression. Multivariate logistic regression analysis was performed while controlling for demographic sociological factors and disability characteristic factors. The experience of depression was among elderly disabled individuals (age 50+: 40.9%) than younger ones (age 19-49: 36.1%), and in disability with aging (49.3%) versus aging with disabilities (39.2%) ($P < 0.05$). Chronic diseases, daily living assistance, living environment, and emotional support from family and neighbors affected both young and elderly disabled individuals. Specifically, among the elderly disabled, exercise frequency (aOR=0.78; [CI]0.63-0.97), social network size (aOR=0.87; [CI]0.82-0.93), and social interaction frequency (aOR=0.68; [CI]0.51-0.91) were significant. Disability with aging was influenced by exercise frequency (aOR=0.29; [CI]0.09-0.95) and emotional support (aOR=0.37; [CI] 0.17-0.77) from peers. older adults with disabilities were affected by not only individual-level factors (exercise frequency) but also both functional (emotional support) and structural (size of social network, frequency of meetings) aspects of their interpersonal social networks.

Key messages:

- Depression experiences among older adults with disabilities are influenced by both functional and structural social networks.
- Developing depression prevention strategies for people with disabilities requires a customized approach that takes into account age-specific characteristics.

Abstract citation ID: ckae144.251

Examining factors associated with cocaine use in late adolescence and early adulthood

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Background: In 2022, cocaine was the leading problem drug for which individuals sought treatment in Ireland, overtaking opioids for the first time. Despite increasing concerns about cocaine, there is limited longitudinal research examining factors associated with cocaine use in the general youth population. We describe levels of use and associated factors at 17 and 20 years old

Methods: Past-year cocaine use was studied at age 17 ($N = 5965$) and 20 ($N = 4679$) in a nationally representative cohort. Individual, family, social and environmental exposure variables were selected a priori. Weighted logistic regression models were fitted using Generalised Estimating Equations to multiply imputed and complete case data.

Results: Cocaine use was reported by 220 (4%) at age 17, and 1072 (23%) at age 20. Both individual and community factors predict use. Earlier alcohol initiation and having friends who use cannabis were strongly associated with increased odds of cocaine use at both ages. Those with parents who reported that neighbourhood intoxication or drug-taking was common had elevated odds of cocaine use at age 17.

Conclusions: Past-year cocaine use at 20 years old in this cohort is substantially higher than other international cohort studies. Levels of cocaine use increase significantly between 17 and 20 years old.

Acknowledgement: Growing Up in Ireland (GUI) is funded by the Department of Children, Equality, Disability, Integration and Youth (DCEDIY). It is managed by DCEDIY in association with the Central Statistics Office (CSO). Results in this report are based on analyses of data from Research Microdata Files provided by the CSO. Neither the CSO nor DCEDIY take any responsibility for the views expressed or the outputs generated from these analyses.

Key messages:

- Our study underscores significant cocaine use rates and correlations with early substance initiation and neighbourhood factors.
- This emphasizes the necessity of a comprehensive, multilevel strategy for preventing cocaine use.

4.N. Scientific session: Equity in Child Health: Leveraging Universal Health Promotion Services for Families Amid Uncertainty

Abstract citation ID: ckae144.252

Organised by: Norwegian Institute of Public Health (Norway)
Chair persons: Boye Welde (Norway)
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This workshop addresses the urgent need to foster resilience and equity in child health within the context of an increasingly uncertain Europe. Rapid societal changes, exacerbated by events such as the COVID-19 pandemic and heightened risks of conflict, climate change and economic instability, underscore the importance of nurturing environments where children can thrive despite challenging circumstances. The workshop aims to explore strategies for promoting well-being and addressing social inequalities in child health within the context of universal health promotion services, such as school health services and child health clinics.

Objectives are to 1) Elucidate the importance and impact of universal health promotion services in addressing social inequalities and promoting equitable opportunities for all children, regardless of background or circumstance; 2) Identify actionable steps for interventions mitigating social inequalities and promoting equitable opportunities focusing on health literacy among parents with immigrant backgrounds; 3) Showcase successful models and initiatives in universal healthcare and health promotion services for children and families, emphasizing early intervention and standardized evaluation tools; and 4) Facilitate dialogue and knowledge exchange among professionals, policymakers, and stakeholders involved in child and adolescent health promotion.

This workshop's added value lies in its multidisciplinary approach, fostering collaboration for innovative solutions in child health resilience and equity. The coherence between presentations lies in their joint focus on addressing social inequalities in the context of universal health promotion services for children and families. Each presentation offers a unique perspective on these themes, contributing to a comprehensive understanding of the challenges and opportunities in child health promotion.

- Hanne Nissen Bjørnsen's presentation on the role of universal services in public health and addressing social inequality sets the stage by examining the structural factors contributing to disparities in child health outcomes.
- Kirsti Riiseŕs presentation conveys the importance of user, stakeholder, and community involvement in creating culturally sensitive strategies for effective health promotion services in the context of health literacy among parents with immigrant backgrounds
- Kristin Haraldstad's presentation on Starting Right, an evidence-based assessment of children in municipalities healthcare centers, highlights the importance of early intervention and targeted support in mitigating health inequalities and promoting well-being.

Format of the workshop: Three 10-minute presentations followed by a 20-minute moderated discussion to delve into empowerment and equity in child health, encouraging rich idea exchanges.

Key messages:

- Leveraging universal health promotion services effectively empowers children and families while addressing social inequalities amidst periods of uncertainty.
- Collaborative, user-centered approaches and evidence-based working strategies are key to promoting equity and building resilience in child health.

Abstract citation ID: ckae144.253
Promoting Equity: Child & Adolescent Health Service

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The health and well-being of children and adolescents face significant challenges, particularly in times of social instability. In response to these challenges, the Norwegian government allocated funding in 2021 to establish a national center for Child and Adolescent Health Promotion Services. Situated within the Norwegian Institute of Public Health, this center focuses on enhancing expertise, professional development, and research within municipal maternity and child health clinics, school health services, and youth health clinics. This presentation delves into the crucial role of Universal Health Promoting Services (UHPS) in mitigating the adverse effects of social inequality on child and adolescent health. By leveraging evidence-based practices and identifying knowledge gaps in health promotion and disease prevention in primary care settings, UHPS serve as catalysts for reducing health disparities and enhancing outcomes among expecting parents, children, and adolescents. Moreover, UHPS plays a vital role in addressing the underlying determinants of health inequality, including social network, lifestyle factors, promotion of health literacy and ensuring accessible health care services for all. UHPS empowers individuals and communities to actively participate in health promotion efforts, fostering a culture of health equity and resilience. Through targeted health education programs, early intervention strategies, and community empowerment initiatives the UHPS work both at a systems and individual level to address social inequality in health. This presentation contextualizes UHPS within a broader picture aimed at promoting child and adolescent health while addressing social inequality in health. By highlighting effective approaches and areas requiring further research, it aims to contribute to the ongoing discourse on optimizing health outcomes for young populations.

Abstract citation ID: ckae144.254
Inclusive, needs-based research for addressing Health Literacy in Parents with immigrant backgrounds

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Research indicates that parental health literacy is associated with child health outcomes. A 2021 study by the Norwegian Public

Health Department found that certain immigrant groups struggle with health literacy due to language barriers, cultural differences in understanding of health and illness, and unfamiliarity with the Norwegian health system and services. To reduce differences in health literacy and better support parents with immigrant backgrounds to make health promoting choices for their children, and navigate the Norwegian health and social systems effectively, we need knowledge about their resources, challenges, and needs. This knowledge makes it possible to design strategies to promote parental health literacy and make health services more responsive to the needs of the population. Optimising health literacy amongst parents with immigrant backgrounds (OPAL) is a research collaboration between Oslo Metropolitan University and the Bjerke City District, one of the most culturally and linguistically diverse districts in Oslo. Applying the Optimising Health Literacy and Access (Ophelia) process, parents health professionals, and researchers work systematically together to develop knowledge of parents' health literacy, identify priority areas for research, design and implement effective solutions in primary health care. In this presentation, we will describe how OPAL is rooted in the strategic priorities of the city district, how the project applies methods for needs identification and involves users and stakeholders at all stages. We will share experiences from planning and conducting inclusive data collection, preliminary results and describe how results will be used in development of targeted health literacy actions.

Abstract citation ID: ckae144.255

Starting Right, an evidence-based assessment of children in municipalities healthcare centers

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During the last century, children's health has evolved significantly, with mental health issues becoming a prominent public health concern. Childhood health problems profoundly impact quality of life (QoL), development, school functioning, and social interactions, affecting society broadly. In Norway, child and school health services offer free comprehensive care within the municipal primary health care system, prioritizing health promotion and prevention to address social health inequalities. The Norwegian Starting RightTM project recruits' children aged 6 months to16 years and their parents, emphasizing early intervention and support to reduce health inequalities and promote well-being. In the Starting RightTM project, online proxy- and child-reported questionnaires are used to support public health nurses (PHNs) in assessing children's health and development in routine follow- up. Parents and children receive an SMS text message asking them to answer an online questionnaire before attending their regular appointments in child or school health services. Validated instruments measure the development (ASQ, ASQ-SE), mental health (SDQ) and health-related quality of life (HRQoL), (KIDSCREEN -27). By mapping children and adolescents' health and through discussions with PHNs, parents and children may be more involved in children's health and development and may increase their Health Literacy. The primary objective of the proposed project is to develop child and school health services and improve children's health and HRQoL. The ongoing project is the first to systematically assess development, health and HRQoL in children and adolescents in Norway through ordinary services, and to do so longitudinally. At present, >2000 children have been included. The large sample size combined with a broad multi- and interdisciplinary approach is unique from a national perspective. The upcoming workshop will showcase findings from this innovative study.

4.O. Pitch presentations: Migrant population health

Abstract citation ID: ckae144.256

Are migrant workers at greater risk of workplace deaths? A systematic review and meta-analysis

Karen Lau

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Background: Globally, 170 million individuals migrate for work. Yet, evidence on their mortality risk remains unclear. Our aim was to synthesize global evidence on migrant worker mortality risk compared to local workers and to identify the multiple intersecting social determinants of mortality.

Methods: We conducted a systematic review of peer-reviewed literature which reported on mortality outcome of migrant workers. Studies published between 1 Jan 2000 to 17 Jan 2023 in English were searched in MEDLINE, Embase, PsycINFO, and Ovid Global Health. Meta-analysis using random effects model was used to calculate pooled estimates and narrative synthesis was used to develop a data-driven framework on intersectional social determinants.

Results: Out of 11,495 identified records, 44 were included, of which 11 were pooled in meta-analyses. The combined migrant worker death count was 44,338, with data from 16 countries, including migrants from agriculture, construction, and service industries. Compared to local workers, migrant workers had a higher risk of fatal occupational injury (pooled RR = 1.71, 95%CI: 1.22-2.38, $I^2 = 99.4\%$), and a lower risk of all-cause mortality (pooled RR = 0.94, 95%CI: 0.88-0.99, $I^2 = 90.7\%$). Key social determinants associated with increased mortality risk were either migration-related (e.g. lower language proficiency, undocumented status) or labour-related (e.g. precarious employment, labour migration policies) interacting over migrant workers' life course.

Conclusions: As the largest evidence synthesis to date, these findings indicate that migrant workers have higher fatal occupational injury rates than local workers, indicating the need for tailored protections for migrant workers. These data confirm that the all-cause mortality advantage observed in migrant populations applies to the working population. Future interventions should be designed to address both migration- and labour-related determinants of migrant worker health.

Key messages:

- Migrant workers have a higher risk of workplace fatality despite being generally healthier than local workers, explained by structural determinants such as precarious employment.
- Future interventions must address migration- and labour-related social determinants of health at structural levels, such as extending labour protection laws to migrant workers.

Abstract citation ID: ckae144.257
Latent tubercolosis infection in the migrant population: an Italian surveillance experience

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Background: The Special Reception Center (“Centro Accoglienza Straordinario” or CAS in Italian) concept was born in Italy in 2014 to receive the large number of migrants arriving in Italy. There are around 3100 centres are in Italy, of which 200+ in Tuscany. Each Center’s objective is to support migrants’ social integration through Italian language and job orientation courses. On arrival at a facility, migrants undergo diagnostic and lab tests to highlight potentially infectious diseases; among these, tuberculosis is one of the most frequently encountered. Therefore, the objective of the study is to estimate the prevalence of Latent Tuberculosis Infections (LTBIs) among migrants hosted in CAS centers.

Methods: From May-December 2023, Amiata Senese, Val d’Orcia and Valdichiana Senese Public Health Unit staff, according to national and departmental guidelines, implemented a number of health surveillance protocols, with close attention to latent tuberculosis infection. This protocol includes the Mantoux TB skin test at the CAS: in case of positivity, subjects are directed to further exams (chest X-ray, TB-IGRA blood test, infectious disease specialist consultation) in order to implement a therapy.

Results: From May-December 2023, 259 migrants (241 males and 18 females) received the TB skin tests. Average subject age was 26. Pakistan was the most represented nation of origin with 130 migrants (50%), followed by Bangladesh (9.7%) and Ivory Coast (7.3%). 77 migrants showed a positive TB skin test result (29.7%): of these 56 (i.e. 21.6% of the migrants screened) were also positive to the TB-IGRA blood test and treated for LTBI.

Conclusions: The high prevalence of LTBIs found in the referenced CAS indicates the need to continue/extend these surveillance protocols. Implementing successfully this procedure requires the involvement of a range of professionals from the socio-health sector within a process necessarily coordinated by the Disease Prevention Department.

Key messages:

- Screening and surveillance of infectious diseases among migrant population represent a major public health issue for European health systems.
- Detection and treatment of Latent Tubercolosis Infections require a multiprofessional and integrated approach, coordinated by the Disease Prevention Department.

Abstract citation ID: ckae144.258
Primary health care models for refugees and the involvement of nurses: A systematic review

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Background: Primary health care is key to address the health and social needs of refugees. Nurses are often part of multidisciplinary teams in primary health care, but little is known about their roles and responsibilities in refugee health. Our systematic review aimed to synthesise the existing knowledge about models of care (MoC) for refugees in primary care settings and the involvement of nurses in these models.

Methods: We searched PubMed, CINAHL and Web of Science for literature published in English, Spanish, French and German. For grey literature, we additionally searched Google Search and Scholar, Microsoft Bing and DuckDuckGo. Eligible publications reported on MoC for refugees in a primary care setting and the involvement of nurses. We extracted and synthesised information about the structure of these models as well as the roles and responsibilities of nurses within these.

Results: 112 publications met our inclusion criteria. Our narrative synthesis focuses on 61 publications with in-depth insights into existing MoC and nurse involvement. We identified 45 MoC, mainly originating from high-income-countries and with almost a third from Australia. The majority of MoC set up a parallel health care structure that refugees could access for a limited period of time. In most MoC, the role of the nurse is described with a relatively high degree of autonomy and with clear areas of responsibility. Clinical and administrative tasks are only part of the nurse’s role, while educational and coordinating activities are often equally important.

Conclusions: Despite the significant number of refugees in European countries we identified only few reports on MoC specifically addressing their needs. While parallel care structures may be an appropriate approach for a short period of time, integration of refugees into the regular health system is key. Specially trained nurses are well placed to support refugees through a range of measures, including health education and case management.

Key messages:

- Models of Care for refugees could help to navigate within a new healthcare system and ensure that no one is left behind. However, development of and research on such structures are still scarce.
- Specially trained nurses are well placed to care for refugees and to support their integration into regular health systems through a range of measures, including health education and case management.

Abstract citation ID: ckae144.259
Educational achievement and health during adolescence in second generation immigrants in Sweden

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Background: Over the last decades, immigration have increased markedly in Sweden. Educational achievement is essential for successful integration; however, second generation immigrants have been shown to lag behind. There is a complex intertwinement between educational attainment and health outcomes. Thus, schooling is crucial in terms of integration but also from a public health perspective. We aim to compare school performance and health in children of immigrant parents and children of parents born in Sweden.

Methods: In this population-based cohort study, 1723 children were followed from birth to age 20. Of these 246 (14.3%) had at least one parent born abroad. Logistic regression was performed controlling for gender, language spoken at home and sociodemographic data obtained at 3 months, 3-, 12- and 20 years. Outcome measures were school performance at age 12 ($n = 984$), grades from compulsory and upper secondary school ($n = 1668$) and register data on psychiatric diagnoses ($n = 737$). Self-response questionnaires on general health, long term health problems and psychiatric conditions were administered at age 20 ($n = 731$).

Results: There were no differences in reading ($p = 0.676$) or mathematics ($p = 0.324$) at age 12, eligibility to upper secondary school ($p = 0.298$) or university ($p = 0.232$) between second generation immigrants and children of native-born parents. No differences in frequency of psychiatric diagnoses ($p = 0.112$), presence of long-term health problems ($p = 0.267$) or self-reported health ($p = 0.595$) were shown.

Conclusions: The results indicate that young adults born in Sweden in the middle of the 1990's with immigrant parents perform similarly in school compared to children of parents born in Sweden. They are not at increased risk for mental illness, long-term health conditions and report their general health equivalently to children of native-born. The comprehensive school system and child health programs used in Sweden are likely important factors to promote education and health.

Key messages:

- In a birth-cohort of children followed into early adulthood, no difference in educational achievement or health was shown between second generation immigrants and children of parents born in Sweden.
- International comparative studies are needed to highlight the importance of underlying structural and socio-cultural factors.

Abstract citation ID: ckae144.260
Civic participation and self-reported health: An intersectional comparative study in Europe

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Background: Civic participation has been associated with better self-reported health (SRH). However, how does the association between civic participation and SRH vary by sex and migration status? This study aims to examine the association between social and political determinants of health and SRH in an intersectional perspective.

Methods: We use data from 26 countries in the 2022 EU Statistics on Income and Living Conditions (EU-SILC) ($n = 425,178$, 18-80 y.o.), following an intercategorical approach. Eight intersectional groups are created based on sex, migration status and being socially/politically active (participation in activities related to active citizenship or in formal/informal voluntary activities). Multilevel (ML) logistic regression models are employed to assess the association between these groups and SRH, controlling for age and educational level.

Results: 24.6% of the sample indicate to be socially or politically active, with significant differences between sexes and migration status. A higher proportion of non-migrant active men report good SRH compared to the other intersectional groups (95.2%). Preliminary results from the ML logistic models show that being active increases the likelihood of good SRH ($OR = 1.77$, 95% CI 1.72-1.83). Migrant active women report better SRH than their non-active counterparts ($OR = 1.27$, 95% CI 1.12-1.44).

Conclusions: Findings suggest that being socially/politically active has a positive impact on SRH, especially among foreign women living in European countries. The study highlights the importance of considering civic (both political and social) participation as health determinant and the need of investing in social capital as a way of health promotion, tackling health inequalities and the marginalisation of at-risk groups.

Key messages:

- Civic participation might strengthen individuals' health, including among migrant women.
- Public health policies should consider civic participation as significant determinant of individuals' health, as well as a way of tackling health inequalities.

Abstract citation ID: ckae144.261
Chronic pain over time among Syrian refugees resettled in Norway

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Background: Chronic pain disproportionately impacts vulnerable groups such as migrants and refugees. This study investigates the long-term changes in chronic pain experienced by Syrian refugees in Norway and explores the factors influencing these changes.

Methods: This prospective cohort study used data from the CHART and Integration for Health studies, with data collection at three points: in Lebanon (Wave-1), one year (Wave-2), and four years post-arrival in Norway (Wave-3). All participants who completed surveys at these timepoints were included ($n = 132$). Chronic pain was measured by asking about pain lasting at least six months. Mixed-effects logistic regression was used to examine changes in prevalence and assess how age, gender, educational level (categorized as low, ≤ 9 years, and high, >9 years), and mental health symptoms (anxiety, depression, and post-traumatic disorders) affect these changes.

Results: Between Wave-1 and Wave-3, the proportion of participants reporting chronic pain increased from 31% to 53%, with an odds ratio of 3.6 (95% CI 2.2 - 5.8). There was an interaction between changes in chronic pain over time and participants' educational level, where the increase in pain prevalence over time was more pronounced among participants with lower educational levels than higher levels. No modification with the other factors were detected.

Conclusions: The study observed an increase in the number of participants reporting chronic pain over time. Low educational level at baseline emerged as a useful indicator for identifying those at higher risk of chronic pain. Understanding this correlation can be crucial for guiding preventive strategies and optimizing resource allocation to assist those most vulnerable.

Key messages:

- Chronic pain disproportionately impacts vulnerable groups such as refugees.
- Refugees with lower education levels at baseline were more likely to experience chronic pain over time.

Abstract citation ID: ckae144.262

Community Health Worker Service: addressing the needs of Gypsy/Travellers in Scotland

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Background: Members of the Gypsy/Traveller community in the United Kingdom face significant health inequalities compared to the general population, including lower life expectancy, higher rates of morbidity and suicide and poorer infant and child outcomes. This study evaluated the implementation of community-based lay workers in Scotland - the Gypsy/Traveller Community Health Worker (CHW) service.

Methods: This multi-method qualitative study (December 2021 to August 2023) included 16 individual interviews, five focus groups, one workshop, two informal discussions, and one site visit. Participants were stakeholders, CHWs, and members of the Gypsy/Traveller community. Additionally, 116 documents were analysed. The framework method, Proctor's implementation outcomes and thematic analysis were used for data analysis.

Results: CHWs reached approximately 1,000 individuals across six National Health Services (NHS) Boards. The implementation outcomes showed that the intervention was accepted and feasible. A third-sector organization (Black and Minority Ethnic Carers of People Project - MECOPP), played a crucial role in successfully delivering the CHW service. This innovative intervention employed members of the Gypsy/Traveller community as lay healthcare workers to break down barriers to accessing healthcare and other services (e.g., uptake of cervical screening, vaccination, housing, and sanitation). The CHWs were trusted, ensured healthcare information was culturally appropriate and successfully addressed discriminatory behaviours in health and social care. Limited resources pose challenges to the sustainability of the service.

Conclusions: The Gypsy/Traveller CHW service enhanced prevention, acted as a bridge between communities and health systems and addressed the wider determinants of health. The Gypsy/Traveller community still faces discriminatory, racist, and stigmatising behaviours, which further impede the quality, delivery, and accessibility of care.

Key messages:
- The Community Health Worker service was acceptable and feasible in the Gypsy/Traveller community, acting as a bridge between community and health systems and increasing access to services.
- Community Health Worker Service is an important strategy for delivering healthcare support through their sector organizations to address historical discrimination against minority ethnic groups.

Abstract citation ID: ckae144.263

Living conditions in Italian administrative detention centres for migrants: a scoping review

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Since 2011, Italy has experienced a growing flow of migrants, despite the implementation of restrictive and detention-oriented procedures. Detention facilities for migrants must provide health protection and general assistance to the person. Considering the critical state of the centres reported by various sources, this study gives an overview of the conditions in Italian detention facilities for migrants from a public health perspective. A scoping search of the peer-reviewed and grey literature was performed to investigate the public health standards currently in force in Italian detention facilities for migrants and refugees (Hotspot and CPR-Pre-removal Detention Centres). Articles published from 2009 to 2021 in English and Italian were included and qualitatively described in five categories: provision of healthcare, living conditions, protection of vulnerable detainees, access to legal advice, and the Covid-19 pandemic. 11 peer-reviewed studies and 24 grey documents were included. Guidelines on screening procedures for infectious diseases or vaccines appeared to be hastily followed; chronic and mental diseases were not appropriately addressed. The facilities were described as run-down, with scarce and poor-quality meals, and lacking of educational activities. A lack of protection for vulnerable categories was reported, including unaccompanied minors. The Covid-19 pandemic further exacerbated pre-existing issues, highlighting systemic weaknesses in preparedness and response. Life conditions within the centres for migrants in Italy fall significantly short of acceptable standards. The main problems are the unavailability of cultural mediation services and the insufficient protection of mental health. The overall conditions appeared to be not dignifying and violations of the law are, if not frequent, present and well recognised. Urgent reforms are warranted to address these shortcomings and ensure the humane treatment and protection of migrants within these facilities.

Key messages:
- Italy is responding to the recent inflow of migrants with policies oriented to detention and repatriation. To this, it established defacto detention centres for migrants, namely Hotspot and CPRs.
- The public health standards of migrants' repatriation centres are poorly followed and life inside the centres appears misereble.

4.P. Round table: Advancing genomic diagnostics for rare genetic diseases: a focus on non-clinical domains of HTA

Abstract citation ID: ckae144.264

Organised by: EUPHA-HTA, -PHG, -ETH, -ECO, -HSR
Chair persons: Chiara de Waure (EUPHA-HTA), Giovanna Elisa Calabrò (Italy)
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Genetic rare diseases are a burning global public health issue requiring a thorough assessment of the related burden. Unfortunately, curative therapies are oftentimes unavailable for genetic rare diseases; nevertheless, a prompt diagnosis could allow clinicians to elaborate supportive care plans for patients and their caregivers, determine the best care setting, and potentially consider enrolling them in clinical trials, if suitable. Innovative, effective, and sustainable diagnostic techniques, such as Whole genome sequencing

(WGS), are needed to address this growing health concern. At global level, there is a paucity of research that specifically investigates the implementation of WGS into clinical practice which is even more constrained at the European level. Furthermore, given the current challenges impacting pediatric patients suspected of having genetic diseases without a definitive diagnosis, there is an urgent need to improve the diagnostic workflow based on genomic techniques, such as WGS. Delving into this topic could contribute valuable insights that can inform policymakers, at macro-level, and health professionals, at micro-level, on how to develop suited genomic policies and clinical guidelines for the proper adoption of WGS within the daily clinical practice. From an international standpoint, it could be argued that these considerations resonate with the United Nations Sustainable Development Goals (SDGs), particularly SDG 3 (i.e., “Good health and well-being”) and 10 (i.e., “Reduced inequalities”), as a priority for research and action. Notwithstanding, the broader implementation of WGS encounters hindrances owing to its complexity and the multifaceted social, economic, organizational, and ethical implications. In view of these challenges, Health Technology Assessment (HTA), as an integrated and multidisciplinary process, provides a comprehensive framework for the evaluation of these dimensions. This round table is intended to provide attendees with insights into nonclinical domains of HTA of WGS which, unlike clinical domains, demand a nuanced approach within the framework of the HTA. The intended objective is pursued through the initial presentation of a case study on the evaluation of WGS in paediatric genetic disorders from the Italian National Health Service perspectives followed by an open discussion with experts. The discussion will delve into issues related to economics, genomics, health services organization and ethics.

Key messages:

- For pediatric patients suspected of having a genetic disease, WGS could shorten the so-called diagnostic odyssey.
- Context-depending aspects of implementing WGS should be properly taken into account through HTA.

Abstract citation ID: ckae144.265

Integration of Whole genome sequencing in pediatric healthcare: an Italian HTA

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Diagnosing pediatric rare diseases poses challenges due to ambiguous symptoms and genetic complexities. Next-generation sequencing (NGS) technologies, like Whole exome sequencing (WES) and Whole genome sequencing (WGS), offer faster and more accurate diagnoses, enhancing clinical utility. However, WGS implementation faces hurdles including complexity and socio-economic impacts. This Health Technology Assessment (HTA) aims to evaluate the integration of WGS, compared to WES, into the Italian NHS for pediatric genetic disorder diagnosis, considering diverse stakeholders and value generation. The EUnetHTA Core Model 3.0 was the primary framework for evaluations. Various methodologies, such as narrative, scoping, and systematic reviews, meta-analysis, GRADE assessment were employed to assess existing evidence. Bayesian cost-effectiveness analyses were adopted for the economic aspects. Summative thematic analysis was used to evaluate organizational aspects of implementing WGS. In respect to non-clinical domains, organizational differences between WES and WGS implementation were seen in respect to procedural steps (i.e., genome rearrangement analysis, data storage) albeit both reduce the need for additional tests. WGS is cost-effective, with Bayesian analysis revealing incremental cost per additional diagnosis lower than the threshold. Ethically, WGS benefits outweigh risks, but comprehensive genetic counseling should address concerns like unsolicited findings and misattributed parentage. Timely genetic diagnosis through genomic technologies may shorten the diagnostic odyssey ensuring brighter futures for children and advancing health care equity. Nevertheless, the implementation of genomic knowledge in clinical practice brings organizational, economic, and ethical issues urging critical reflection in HTA evaluations and a multi-stakeholders involvement.

Speakers/Panelists:
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Els Maeckelberghe
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João Vasco Santos
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4.Q. Scientific session: Global landscapes of healthcare worker migration: advancing effective and equitable solutions

Abstract citation ID: ckae144.266

Organised by: EUPHA-HCW, WHO/Europe, Babeș-Bolyai University (Romania), WHO Collaborating Center for Health Workforce Policies and Planning
Chair persons: Ellen Kuhlmann (EUPHA-HCW), Marius-IonuțUngureanu (Romania)
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Background: Healthcare workforce migration not only increased in numbers, the mobility flows and migration patterns are also changing and becoming more diverse. The labour market push-and-pull factors and related risks of ‘brain-drain’ are still relevant and many countries, especially in the western world, heavily rely on foreign-born and foreign-trained healthcare workers to mitigate shortages and respond to the healthcare workforce crisis. However, this migration pattern increasingly co-exists with other patterns, blurring the categories of hosting and sending countries. For instance, some low- and middle-income countries have created the export of skilled healthcare workers as business model, others invest in healthcare worker education without advancing national labour market capacities. There is also an increase in crisis migration caused by wars, climate change, and other conflicts, yet these refugee healthcare workers are often excluded from the formal labour market. These examples illustrate that health policy across countries largely failed to respond to the changing global landscapes of migration and to govern education, recruitment and retention more effectively. The healthcare workforce debate is primarily driven by health labour market needs, while health policy and human rights remain marginal. There is also a lack of comprehensive data and research, that would allow for evidence-based decision-making. Ineffective policy and existing governance gaps exacerbate the global healthcare workforce crisis, increase stress and workload of the healthcare workers, and often ignore worker and human rights.

Objectives: This workshop looks beyond labour market push-pull factors and highlights the complexity of healthcare worker migration. It makes the diverse needs, stakeholder interests, and institutional frameworks visible that shape mobility patterns of healthcare worker, seeking to identify capacity for more effective governance and good-practice examples. The following major questions will be discussed, among others: What data and research are needed to better understand the global migration landscapes? What can we learn from cross-country knowledge exchange and good practice experiences? How can public health advance more equitable and effective education, recruitment and retention policy, and what role could global contracts and international organisations play? The interactive discussion will be facilitated by a commentary on global capacity building for equitable healthcare worker migration and the action taken by WHO. The presenters and the audience will advance knowledge exchange and critically explore novel solutions to the healthcare workforce crisis that are more sensitive to the needs of both individual migrant healthcare workers and less well-resourced countries, in the global South as well as within Europe.

Key messages:

- Increasingly divers patterns of healthcare worker migration call for novel governance approaches that align labour markets, health policy needs, and human rights.
- More effective, equitable and 'humanised' governance of healthcare worker migration needs a global public health and human rights approach.

Abstract citation ID: ckae144.267
A source and a destination country for migrant healthcare workers: the case of Ireland

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Background: Ireland has a long tradition of emigration, particularly to countries such as the United Kingdom and the USA. Since 2000, Ireland has become increasingly reliant upon migrant healthcare workers. At present, 43% of nurses and 45% of physicians registered in Ireland, trained internationally.

Methods: This study draws on literature and available data (migration and registration data) to illustrate recent patterns of healthcare worker migration into and out of Ireland.

Results: The data show that Ireland depends heavily on migrant healthcare workers to staff its health system. In 2021-22, internationally trained healthcare workers comprised 71% of new entrants to the medical register and 69% of new entrants to the nursing register. In terms of outward migration, the data also indicate a consistent pattern of outward migration of physicians to countries such as Australia, the United Kingdom, Canada, and New Zealand.

Conclusions: A heavy (and growing) reliance on migrant healthcare workers to staff the Irish health system implies a failure to train or retain sufficient healthcare workers locally and indicates weak healthcare workforce planning capacity. It also highlights a disconnect between Irish healthcare workforce planning and the WHO global code on the international recruitment of health personnel. This study will consider some of the risks associated with high rates of inward and outward healthcare worker migration in the Irish context.

Abstract citation ID: ckae144.268
The impact of healthcare worker migration in source countries: Colombia, Indonesia, and Jordan

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Background: To address domestic shortages, high-income countries are increasingly recruiting healthcare workers from low- and middle-income countries. This practice is much debated, yet empirical evidence is rare. This study fills this knowledge gap by reporting high-level stakeholders' perspectives on health system impacts of international migration and active recruitment of HCWs in Colombia, Indonesia, and Jordan.

Methods: We used a multiple case study methodology, based on qualitative methods integrated with information available in the published literature.

Results: All respondents decried a lack of robust and detailed data as a serious challenge in ascertaining their perspectives on impacts of healthcare workersmigration. Stakeholders described current emigration levels as not substantially aggravating existing healthcare workforce availability challenges. This is due to the fact that all three countries are faced with healthcare worker unemployment grounded in unwillingness to work in rural areas and/or overproduction of certain cadres. Respondents, however, pleaded against targeting very experienced and specialised individuals. While observing little harm of healthcare worker migration at present, stakeholders also noted few benefits such as brain gain, describing how various barriers to skill enhancement, return, and reintegration into the health system hamper in practice what may be possible in theory.

Conclusions: Improved availability of data on healthcare workers migration, including their potential return and reintegration into their country of origin's health system, is urgently necessary to understand and monitor costs and benefits in dynamic national and international health labour markets. Our results imply that potential benefits of migration do not come into being automatically, but need in-country supportive policy, such as favourable reintegration policies or programs targeting engagement of the diaspora.

Abstract citation ID: ckae144.269
The paradoxical surplus of healthcare workers in Africa: the need for research and policy engagement

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Background: In many countries in Africa, there is a paradoxical surplus of under and unemployed nurses, midwives, physicians and pharmacists which exists amidst a shortage of staff within the formal health system. By 2030, the World Health Organisation Africa Region may find itself with a shortage of 6.1 million healthcare workers (HCWs) alongside 700,000 un- or underemployed health staff. This study aims to bring the nature and consequences of an existing paradoxical surplus of HCWs in low income countries into the HCW migration debate and to explore novel solutions.

Methods: The study draws on a rapid review of the literature and deeper insights from expert information, using examples from Uganda, Kenya and Niger.

Results: In Niger, between 2010-2014, 55% of health graduates were unable to find permanent work in the sector leaving 15 000 HCWs unemployed or in precarious jobs. In Sudan, an 8-fold increase of the number of places at medical colleges (between 1996-2012) was not accompanied by a commensurate investment in physician positions leading to increased unemployment and brain drain. In Kenya, in 2021, 27243 HCWs were un or under-employed. In Uganda, 20590 nurses and midwives were reported as unemployed in 2023. Despite this, the emphasis in policy debates about the healthcare workforce crisis in most national and global levels is on staff shortage and the need to train more HCWs. In contrast, an existing surplus HCWs and their association with patterns of migration are largely unknown. Little time is given over to understand the economic, political and social factors that have driven their emergence and the governance challenges and potential interventions to improve employment rates.

Conclusions: The results highlight the complexity of migration, labour market conditions and health systems, in particular in low income countries in Africa. Both qualitative and quantitative data is necessary for policy makers to find effective solutions to the problem.

Abstract citation ID: ckae144.270
Forced displacement and the healthcare workforce crisis: Venezuelan healthcare workers in Peru

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Background: The migration of healthcare workforces tends to be economically based benefiting high income countries, while draining lower-income countries of workers and skills. However, national instability or civil conflict may also have the effect of forcing out health workers. Few articles focus on the experiences of these types of migrants. This study aims to close a gap in the migration debate by exploring the capacity of integrating displaced healthcare workers in middle-to-low resourced health systems, using Peru as a case study.

Methods: The study draws on a policy analysis, statistical data and expert information from Peru.

Results: Peru has become the second largest Latin American destination for Venezuelan forced displaced migrants, a number of which are healthcare workers. While the exact numbers of these workers is unknown, it is estimated that 4,000 and 3,000 physicians and about 2,500 nurses and health technicians from Venezuela reside in Peru. These workers find entry into the heath system difficult due to bureaucratic and costly registration and qualification validation procedures. However, during Covid-19 the conditions were relaxed, and a large number of these workers entered the healthcare workforce. They were primarily physicians and worked in urban medical facilities, though there was some distribution across the country's departments. This avenue to the healthcare workforce allowed the mobilisation of dormant health skills and assisted to lift density numbers.

Conclusions: Peru's experiences bring into focus the potential benefits of mobilising new resources through integrating displaced healthcare worker migrants. It is too early to assess the sustainability of these policies on the country's healthcare workforce and its Universal Health Coverage goals, yet there seem to be some positive experiences.

Speakers/Panelists:
Tomas Zapata
WHO/Europe, Copenhagen, Denmark

5.A. Scientific session: From theory to action - Applying the Medical Research Council framework on complex interventions

Abstract citation ID: ckae144.271

Organised by: Aarhus University (Denmark), Cardiff University (UK)
Chair persons: Rhiannon Evans (Denmark), Helle Terkildsen Maindal (Denmark)
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The reasons for the workshop: Globally, public health problems such as obesity, poor mental health, and social inequality in health are on the rise. Tackling these significant challenges requires well-designed complex interventions. Interventions rarely follow linear sequences from intervention design toward large-scale implementation. Rather, they take non-linear trajectories by constantly adapting the intervention design according to the context. This thinking is outlined in the British Medical Research Council's (MRC) 2021 framework for developing and evaluating complex interventions. This workshop encompasses four case projects, each corresponding to one of the four phases in the framework: i) development, ii) feasibility, iii) implementation, and iv) evaluation. However, recognising the deliberately generic nature of this framework, our workshop also encompasses co-creation, process evaluation, and implementation theories and methodology. Combining these methodologies presents challenges that necessitate clear argumentation and critical reflection. In this workshop, we will share the challenges encountered when applying the MRC 2021 framework and hopefully inspire future innovative opportunities in intervention research. Specifically, this workshop aims to:

i) exchange challenges from intervention research methods and theories drawing on presenters' experiences across four public health case projects. Presenters will critically reflect on the key concepts from the MRC framework including context, programme theory, engagement of stakeholders, uncertainties, and refinement of interventions.

ii) discuss opportunities for future complex intervention research and outline best practices for using the MRC 2021 framework for complex interventions.

The added value of organising the workshop: The audience attending this workshop will reflect on multiple on-the-ground experiences of applying methodology and principles from the MRC 2021 framework as well as methods and theories relevant to intervention research: co-creation, qualitative (e.g., ethnography, interviews) and quantitative (e.g. experimental, observational) methods applied to all core phases of complex interventions. At the end of the workshop, the audience will be invited to participate in an open, plenary discussion facilitated by the workshop's chairs: two international experts on complex interventions, Reader Rhiannon Evans and Prof. Helle Terkildsen Maindal. The experts will encourage the presenters and audience to reflect critically on the case projects and ways forward for complex intervention research. Coherence between the presentations in relation to the workshop topic: The four case projects are guided by the MRC 2021 framework for complex interventions and involve public health interventions at the individual, interpersonal, and structural levels in Denmark and Canada.

Key messages:

- Tackling public health challenges demands innovative and well-designed complex interventions combining research traditions, principles from health promotion, and cutting-edge best-practice frameworks.
- The symposium will create a platform for cross-disciplinary knowledge exchange through case projects and expert-led joint discussions on how to apply the MRC 2021 framework for complex interventions.

Abstract citation ID: ckae144.272
Mothers to Babies & Art of Creation: Canadian stakeholder engagement during intervention development

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Background: The 2021 British Medical Research Council framework, outline that effective development of interventions requires engagement of diverse stakeholders. In practice, however, engaging stakeholders in health intervention development often receives insufficient investment. The Mothers to Babies (M2B) Study and its linked Art of Creation (AoC) Intervention Project comprise a joint case study in prioritizing stakeholder engagement.

Methods: From 2016 to 2019, our M2B team dedicated its financial and personnel resources to assessing community health priorities for preventing non-communicable diseases (NCDs) in Hamilton, Canada. Motivated by a "first 1000 days" approach (i.e. health environments through pregnancy and infancy have outsized impacts on NCD risks across a child's life), we worked with stakeholders to identify acceptable, feasible complex intervention strategies supportive of health behaviours among pregnant Hamiltonians. To this end, we surveyed 434 pregnant people of diverse backgrounds and ran focus groups, interviews, and meetings with 69 stakeholders with diverse orientations to pregnancy and family health provision.

Results: M2B's work indicated two areas actionable through a complex, behavioural intervention: 1) lack of knowledge about the first 1000 days, and 2) need for platforms for peer support and empowerment. These themes were centred in the development and the stakeholder-engaged implementation/evaluation of the ongoing AoC intervention study. AoC uses outreach through local cultural institutions and arts-based workshops to facilitate understanding of the first 1000 days. AoC increases participants' knowledge of the first 1000 days, supports social relationships among participants and is enjoyable and empowering.

Conclusions: Investing three years and dedicated personnel to stakeholder engagement by M2B yielded the development of AoC, a complex health promotion intervention that fits the diverse priorities of Hamilton communities.

Abstract citation ID: ckae144.273
Fidelity of the Face-it health promotion intervention for women with recent gestational diabetes

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Introduction: According to the 2021 British Medical Research Council 2021 framework, a feasibility study aims to assess intervention-specific progression criteria. Fidelity is a critical criterion because it concerns how an intervention is implemented as intended. Fidelity conceptualisation has expanded beyond intervention adherence to encompass participant engagement, i.e., how well they receive and enact the intervention, but these latter aspects achieve little attention. We aimed to assess the fidelity of the Face-it intervention, a health promotion intervention for women with a history of gestational diabetes mellitus and their families. The intervention consisted of three home visits and health technology delivered by health visitors/coaches. Our fidelity assessment included: i) training of the health visitors/coaches ii) the delivery, iii) receipt, and iv) enactment of the intervention.

Methods: The National Institutes for Behaviour Change Consortium's (NIHBCC) framework for fidelity was used to assess four elements of fidelity. Data were collected from 150 women using intervention checklists, health technology logs and the virtual climate care questionnaire, which measured autonomy supportiveness from the intervention.

Results: The health visitors/coaches received four training days before the implementation and 16 hours throughout the intervention delivery. 73.3% of women completed three home visits, and 91.3% of women registered as health technology users. The participants perceived the intervention to be autonomy supportive, encourage health behaviour change and provide effective possibilities for health behaviour change, even though the delivery of the health technology varied greatly.

Conclusions: The Face-it intervention was largely implemented as intended. Using the NIHBCC framework, we expanded our fidelity conceptualisation and gained important insight into the feasibility of the intervention and interplay between delivery, receipt, and enactment.

Abstract citation ID: ckae144.274
The role of the organisational context in the implementation of a complex mental health intervention

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Introduction: The 2021 framework for complex interventions introduced by the UK Medical Research Council highlights context as one of the core elements. In the implementation phase, context is considered especially critical as it affects the intervention's effect, sustainability, and transferability. However, in public health implementation research, there is a lack of understanding of the interrelatedness between intervention and context conditions. This study aimed to explore the role of the organisational context in implementing a complex mental health intervention.

Methods: The study was designed as an ethnographic case study. This design enabled a comprehensive exploration of the relation between the case and its context by providing insights into the process of change implied in the implementation and how this collides with the organisational norms, culture, and structure. Four general practices participating in The Healthy Mind Intervention were included as cases. One-person interviews with clinic owners, focus group interviews with personnel, and observations of intervention activities and everyday life in the practices were used to collect data.

Results: Three themes were identified. First, existing organisational norms, ideals, and values were replicated in the implementation process and either inhibited or facilitated the process of change. Second, different narratives of both implementation and context existed among some of the professional groups, which complicated the collaborative efforts in the implementation. Last, conflicts in the organisations were actualised in the implementation process, which enabled a discussion and improvement of these issues.

Conclusions: Ethnographic case studies provide extensive insights into the role of the organizational context in implementing complex interventions, which is critical for the implementation to be effective, qualified, and sustainable.

Abstract citation ID: ckae144.275
A Process Evaluation in a Randomized Controlled Trial among Adults with Acetabular Dysplasia

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Introduction: The 2021 framework from the UK's Medical Research Council defines evaluation as a theory-driven approach to examine how well an intervention works. However, the application of these guidelines can be challenging. Therefore, using a process evaluation case study on an exercise and patient education intervention for adults with acetabular dysplasia, we reflect on which specific aspects were relevant for the evaluation of the intervention and why. We focus on detailing methods to assess implementation (process, dose, reach), acceptability, mechanisms of change, and the impact of contextual factors.

Methods: Two hundred trial participants aged 18-50 years will be recruited from a University Hospital in Denmark and randomised to intervention and control groups. The process evaluation adopts a concurrent mixed-methods design involving self-report questionnaires at baseline and 6-month follow-up, training records and semi-structured focus groups with intervention providers ($n = 10$) and healthcare managers ($n = 4\text{-}6$). The mechanisms of change will be explored through semi-structured one-to-one interviews (at baseline and 6-month follow-up) with 15-20 purposefully sampled trial participants, and additionally, through exploratory examinations of associations between dose and change in health outcomes at 6-month follow-up), via simple linear regression models. The acceptability and contextual factors will be explored through one-to-one participant interviews, plus focus groups with 4-6 healthcare managers. Thematic analyses of the interviews will focus on expectations, experiences, events, personal understandings and interpersonal and organisational interactions.

Conclusions: The presentation will explore how the operational aspects of the intervention can be assessed through a process evaluation and how these findings may improve and expand any future implementation efforts.

5.B. Round table: Improving digital health literacy in the era of generative artificial intelligence

Abstract citation ID: ckae144.276

Organised by: EUPHA-HL, -HP, -DH, -ETH, -FS, -GH, IUHPE Working Group on Health Literacy, Technical University of Munich (Germany)
Chair persons: Don Nutbeam (Australia), Orkan Okan (EUPHA-HL)
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Improved access to generative Artificial Intelligence (AI) platforms and technologies has prompted greater awareness of their potential application in health communication. This workshop will examine this potential alongside the practical challenges and risks of using generative AI in health communication in the broader context of the European Union AI Act. The workshop will explore the implications for the concept of digital health literacy in ways that reduce or mitigate existing digital health inequities across and within Europe. Chatbots and conversational AI platforms such as ChatGPT have opened opportunities for people to find, understand and use health information in significantly different ways. Public health professionals are already using these technologies to simplify health and medical information and to make it available in different languages. AI assisted technologies are also being used to create interactive and engaging learning experiences that provide the public with real-time feedback and insights about their health as well as prompting and reinforcing actions they can take to improve health. These developments have fundamental implications for our understanding of digital health literacy and the methods we use to support people in optimising the potential benefits of AI. Different communities in Europe vary considerably in their

- access to digital technology,
- skills to discriminate the accuracy and reliability of information, and
- trust and responsiveness to what digital technologies have to offer.

Building these fundamental digital health literacy skills is a critical priority if we are to ensure that all people benefit equitably from the potential offered by AI. Those of us engaged in improving health literacy have an important role to play in influencing the future direction of AI in health communication, including and especially by engaging in research and development activities that build evidence of effectiveness and support the development of digital health literacy skills in parallel with the expansion of access to AI-assisted digital technologies. The workshop chairs will provide introductory and summary remarks, moderate the panel discussion, and facilitate audience participation in the workshop. The individual panel members will make 3-minute introductions to key issues from different perspectives on the emerging practical applications of generative AI in health communication as well as the implications for strategies to improve digital health literacy in different population groups. The panel is made up of individuals in different roles and at different career stages who can offer complementary perspectives on these issues. Following the presentations, the co-chair will present some follow-up questions to the Panel before engaging directly with the workshop attendees for an open but structured discussion scheduled to last for 30 minutes of the Workshop.

Key messages:

- We will examine how generative artificial intelligence has opened new both new opportunities and risks in the ways people find, understand and use health information.
- We will consider how we can optimise the benefits of generative AI in a way that is equitable through the development of digital health literacy within and between communities in Europe.

Speakers/panelists:

Catherine Jenkins
London South Bank University, London, UK
Diane Levin-Zamir
Tel Aviv University, Tel Aviv, Israel
Christopher Le
Inland Norway University of Applied Sciences, Innlandet, Norway
Miguel Telo de Arriaga
Direção-Geral da Saúde, Lisbon, Portugal

5.C. Scientific session: Strengthen resilience against emerging vector-borne diseases through the ECDC Fellowship Programmes

Abstract citation ID: ckae144.277

Organised by: European Centre for Disease Prevention and Control (Sweden)
Chair persons: Sara Mazzilli (France), Sebastian von Schreeb (Denmark)
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Over the past decade, climate change has impacted the transmission of a wide range of vector-borne diseases (VBDs) in Europe, where locally transmitted outbreaks have occurred. It has been implicated in the observed expansion of competent disease vectors in Europe such as Aedes albopictus, which transmits diseases such as Zika, Dengue and Chikungunya. Climate may influence the life cycle of vectors, and the reproduction rate of viral particles inside vectors and human hosts, which means that upsurges in temperature can reduce the incubation period of these pathogens and the life cycle of vectors, thus boosting transmission risk through elevated vector populations. Moreover, globalization and international air travel contribute to pathogen and vector dispersion internationally. Risk mapping suggests further expansion of the species in northern Europe due to climate change. The above underscores the necessity for more proactive measures, such as developing an effective vector control program by monitoring the density and distribution of hosts and pathogens at urban, national, and cross-border levels. Additionally, establishing early warning systems based on integrated human and zoonotic and entomological surveillance is crucial to detect alerts promptly and comprehend where and when infections may emerge or spread. Furthermore, cross-border collaboration and harmonization of vector-borne surveillance systems across European countries may improve preparedness, control and response to mosquito-borne diseases. Preparedness and response require significant efforts from EU Member States and neighbouring countries. Only through a multidisciplinary approach, involving multiple sectors, can we truly prepare to address public health threats. To contribute to strengthening resilience against cross-border public health and emerging health threats in EU Member States and neighbouring countries, the European Centre of Disease Prevention and Control (ECDC) has established three fellowship training programmes. These programmes aim to create and maintain a network of highly qualified epidemiologists, microbiologists and public health professionals and strengthen the public health epidemiology workforce at EU and neighbor countries. This workshop will offer attendees a comprehensive overview of the ECDC's fellowship programmes, describe how they function and explain their role in preparing for health threats. It will provide examples of three projects carried out by fellows on the implementation of preparedness, response and control measures for emerging vector-borne diseases in European countries at local, national and multinational levels. Those will set the scene for an in-depth analysis of the key challenges faced and can help promote awareness that integrated, multidisciplinary interventions are both feasible and effective in reducing the threat of vector-borne infectious diseases spreading in Europe and neighboring countries.

Key messages:

- ECDC fellowship programmes aim to strengthen resilience against emerging public health threats in EU Member States and neighboring countries.
- Fellows are engaged in national and cross-border integrated and multidisciplinary interventions to strengthen preparedness and mitigate the spread of emerging vector-borne diseases.

Abstract citation ID: ckae144.278
Building Resilience: Strengthening European public health workforce through ECDC Fellowship Programs

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The European Centre for Disease Prevention and Control (ECDC) Fellowship programmes offer a two-year training in field epidemiology (EPIET) and in public health microbiology (EUPHEM) aiming to create and maintain a network of highly trained field epidemiologists and public health microbiologists and strengthen the public health epidemiology workforce in the European Union (EU) and beyond. The Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) also aims to strengthen the public health workforce in countries neighboring the EU. During the training, fellows who are based in different public health institutes in the EU and neighboring countries, set-up, implement and evaluate surveillance of communicable diseases, investigate outbreaks and conduct operational research directly linked to public health actions. The programmes facilitate knowledge exchange and collaboration across borders, building a foundation for participants and their institutions and promoting long-term collaboration through the alumni network. Participants from diverse disciplinary and cultural backgrounds enable interdisciplinary and multi-sectoral knowledge transfer, enhancing the effectiveness of public health responses. By facilitating collaboration and networking, exchanging experiences, disseminating best practices and assimilating lessons learned, these programmes contribute to addressing contemporary health challenges, including emerging vector-borne diseases and strengthening public health systems in Europe and neighboring regions. In the face of global challenges such as climate change and globalization, the fellowships exemplify how collaboration can strengthen Europe's defenses against emerging health threats.

Abstract citation ID: ckae144.279
Rapid response Task Force: addressing the detection of Aedes albopictus in Lisbon, Portugal

Berta Grau-Pujol

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Issue: The invasive Aedes albopictus mosquitoes are spreading in southern Europe and pose a heightened risk of mosquito-borne diseases, like Dengue and Chikungunya. On September 2023, A. albopictus was first identified in Lisbon through community-based surveillance and a multidisciplinary national Task Force (TF) was convened.

Description of the problem: The TF included experts in epidemiology, entomology, environmental health, laboratory diagnosis, prevention and control and communication. The objectives were to i) confirm A.albopictus presence in Lisbon and adjust the risk assessment, ii) raise awareness and prevent mosquitoes' spread, iii) revise national guidelines on arboviruses surveillance and control. During September-December 2023, the National Network for Vectors Surveillance (REVIVE) and the Hygiene and Tropical Medicine Institute sampled mosquito-prone habitats within 2km-radius of the detection point using QGIS software. They used snowball sampling to identify any new foci. They placed ovitraps for ongoing surveillance and conducted morphological analysis and xenomonitoring for pathogen DNA and RNA detection at the national reference laboratory.

Results: By November 2023, A.albopictus was detected in two new foci. No mosquitoes tested positive for arboviruses, and no autochthonous cases of mosquito-borne diseases were identified. The TF developed national guidelines for vector prevention and control and awareness for arboviruses and trained municipality workers. To raise awareness, we communicated with experts and the public through existing channels and media. As of April 2024, no new foci have been detected.

Lessons: Community-based surveillance and REVIVE approach were crucial for invasive A.albopictus detection and monitoring in Lisbon. Rapid multidisciplinary TF coordination may have been key for timely vector control.

Abstract citation ID: ckae144.280
Serbia multidisciplinary approach for surveillance and risk identification – The "One Health" information for action

Petar Djuric

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Issue/problem: To date, Serbia has not detected locally acquired Dengue cases. Since a competent Dengue virus vector Aedes albopictus (Ae. albopictus) has been detected since 2017, imported cases have the potential to trigger local transmission.

Description of the problem: To ensure preparedness and timely response in the event of an epidemic signal in Serbia, we described the imported Dengue cases and analysed the geographical distribution and density of the vector. Probable and confirmed imported cases meeting the 2018 EU case definition were reported via the National Notifiable System between January 2019 and December 2023. We monitored the density and geographical spread of mosquitos, including Ae. albopictus, which were collected during May-October 2022 and 2023. Mosquito genera were determined according to morphological criteria and DNA barcoding.

Results: During the investigation period, physicians reported three probable and four confirmed imported Dengue cases; the mean age was 28.4 (standard deviation (SD)=11.5) years and 57% were male. Cases had travelled in Southeast Asia ($n = 6$) and the Caribbean ($n = 1$). The mean time interval from symptom onset to seeking medical care was 3.6 ($SD = 2.1$) days and from symptom onset to laboratory confirmation 7.4 ($SD = 6.3$) days. We collected 1994 Ae. albopictus mosquitoes in 308 sampling sites across 12 Serbian regions. We observed the highest number of mosquitoes in September (38%, $p < 0.001$) and in the Belgrade region (81%, $p < 0.001$). In 2022, we detected Ae. albopictus mosquitos in seven regions and in 2023 in nine.

Lessons: Ae. albopictus mosquitoes were widely distributed in Serbia, with the highest presence during September and in the capital region. The importation of Dengue cases from affected countries underscores the need for enhanced integrated and "real-time" surveillance linked with vector control activities.

Abstract citation ID: ckae144.281
Comparing Aedes-borne disease surveillance systems in Southern Europe: France, Italy and Portugal

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Introduction: Colonization by the Aedes albopictus vector, alongside rising autochthonous dengue cases in France and Italy and imported dengue cases in Portugal reflect the emergent risk of Aedes-borne diseases in Southern Europe. In view of improving surveillance, preparedness, and response against Aedes-borne diseases in Europe, we aimed to systematically describe and compare the respective surveillance systems and response measures in place across France, Italy, and Portugal.

Methods: We employed a benchmarking analysis using a comprehensive set of surveillance system descriptors based on the ECDC document "Data quality monitoring and surveillance system evaluation". We collected data from key-informant interviews, national guidelines and literature, and ensured data collection harmonization through a consensus decision-making process.

Results: Each country has an integrated surveillance system for Aedes-borne diseases. The 3 countries share similarities in surveillance type (passive, compulsory, comprehensive, year-round operating systems), geographic coverage (national), case definitions (adapted EU case definitions), and notification processes. France also practices active surveillance and Italy and Portugal event-based surveillance to complement routine surveillance. Common response measures include visiting affected areas, active case-finding, and blood safety measures. France and Italy responses largely focus on vector control, while Italy and Portugal monitor pathogens in vectors.

Conclusions: Surveillance systems in France, Italy, and Portugal are similar, while their response measures vary, likely reflecting different epidemiological and entomological context. Implementation of harmonised, risk-based surveillance systems across southern Europe and enhanced cross-border collaboration may improve preparedness, control and response to Aedes-borne diseases.

5.D. Scientific session: Climate Change and Inequalities: Addressing Intersections and Impacts

Abstract citation ID: ckae144.282

Organised by: EUPHA-ENV, -LAW
Chair persons: Marija Jevtic (EUPHA-ENV), Brigit Toebes (Netherlands)
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Climate change poses one of the greatest challenges of our time, with far-reaching implications for environmental sustainability, social equity, and economic development. In recent years, growing attention has been paid to the intersecting dynamics between climate change and inequalities, recognizing that vulnerable populations are disproportionately affected by climate-related risks and impacts. This workshop aims to explore the multifaceted relationship between climate change and inequalities and examine the root causes of disparities. In this workshop we will explore intersectionality by examining how climate change intersects with various forms of inequality, including socio-economic and health status, gender, age, indigenous status, and geography, shaping differential vulnerabilities and experiences of climate impacts. This workshop aims to facilitate dialogue, knowledge exchange, and collaboration among public health researchers and professionals. We offer a unique opportunity to deepen our understanding of the complex interplay between climate change and inequalities, shedding light on overlooked aspects [?]. By bringing together diverse perspectives and expertise, the workshop aims to generate actionable insights and solutions that promote social justice, sustainability, and human rights in the face of climate change. The presentations in this workshop are thematically interconnected, addressing key aspects of climate change and inequalities from multiple angles. Topics include: Gender and climate justice, Climate change adaptation equity, Legal perspectives on climate change and inequalities and Climate Change Impacts on Respiratory Health. In conclusion, this workshop serves as a critical platform for advancing understanding, dialogue, and action on the intersection of climate change and inequalities.

Key messages:

- Climate change interacts with socio-economic, health, gender, age, indigenous status, and geography, influencing vulnerabilities and impacts.
- Vulnerable populations bear a disproportionate burden of climate change effects, including individuals with pre-existing lung conditions and children.

Abstract citation ID: ckae144.283
Sex differences in mortality associated with heatwaves: a systematic review and meta-analysis

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Introduction: The existence of sex and gender differences in the mortality associated with heatwaves remains unclear.

Methods: A systematic review and random-effects meta-analysis of population-based studies that investigated the mortality associated with heatwaves and reported results stratified by sex/gender was conducted (PROSPERO registration CRD42023430208). Bibliographic databases Medline and Embase were searched from inception to May 2024 with MESH terms for heatwaves/extreme heat and mortality. This was complemented with hand-searching of reference lists of relevant studies. The methodological quality of eligible studies was assessed using the Joanna Briggs Institute critical appraisal tool.

Results: In total, 931 studies were identified, of which 32 studies were included in the qualitative review and 11 in the meta-analysis. Most studies (20/32) reported a higher risk of heat-related death for women than men even after adjusting for or stratifying by age. Twelve studies showed statistically significant higher risks of death for women than men and 7 studies identified an increased risk of death for women, but the wide confidence intervals precluded making definite conclusions. Two studies reported a higher risk of death for men in comparison to women but only one was statistically significant. The remaining 10 studies found comparable risks for women and men. For the 11 studies included in the meta-analysis, women had an 8% increased risk of death in comparison to men (RR 1.08, 95% CI [1.02 to 1.14]). There was significant heterogeneity ($I2=69\%$, $p=0.001$) due to the variability in the definition of exposure, population, and setting. Most studies had a low to moderate risk of bias.

Conclusions: Women appeared to have an increased risk of death associated with heatwaves in comparison to men. Further research is warranted to understand the underlying factors and ensure the health protection response considers the gendered impact of heatwaves.

Abstract citation ID: ckae144.284
Legal perspectives on climate change and inequalities

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In many areas of public health policy, litigation has delivered significant, long-lasting impacts. Examples include tobacco control, increasing access to treatments for HIV, and addressing air pollution and climate change. Litigation is an established part of public health's advocacy toolbox in national courts, and increasingly in international courts and tribunals. In responding to climate change, in addition to potential policy and law reform, climate change litigation creates opportunities for public scrutiny and debate by raising awareness of inaction or harm caused by governments or private sector polluters, and sparking wider community mobilisation for climate action. Where climate change litigation is based on human rights claims, credible science-based evidence of the health and other human rights impacts of climate change is essential. Public health professionals are increasingly involved in assembling and presenting such evidence, often focusing on vulnerable populations. However, the multiple intersecting identities of vulnerable populations have not been sufficiently explored. For example, how does intersectional disadvantage influence the ways in which evidence of the impact of climate change is assembled and assessed? How are these issues addressed in the courts? Examples include older women (KlimaSeniorinnen v. Switzerland), young people, from both the global South and global North, in urban or remote areas, or with different pre-existing health conditions (Sacchi et al. v. Argentina et al), and Indigenous people, including women and children (Daniel Billy and others v. Australia; Teitiota and others v. New Zealand). Multiple identities can compound vulnerability. For example, young people may be more vulnerable both due to their physical immaturity and due to eco-anxiety and other mental health impacts. This presentation will explore these issues, and the critical role of public health professionals in legal action to address climate change.

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Can we adapt fairly? Systematic review of health equity implications of climate change in coastal communities in the UK

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As climate change becomes more apparent, it is important to evaluate the equity implications of adaptation interventions and policy measures. Many coastal populations experience high levels of social deprivation, which can be compounded by environmental factors. Coastal hazards, such as erosion and flooding can cause short and long term impacts on physical and mental health. To systematically review the published evidence on the differential impacts of coastal change on health inequalities and review the implications of adaptation responses for health inequality. We systemically reviewed the evidence for the UK only on a) inequalities in coastal flood impact or risk, and b) effectiveness and equity implications of current measures to manage the climate risks to an acceptable level of impact. Interventions included: plans and guidance, insurance, and infrastructure, including natural flood management. We found 8 papers quantifying differentials in current and future impacts of coastal flood risk and 6 papers assessing equity implications of adaptation measures. Coastal flood risk is unevenly distributed. Those owning their own home were more likely to experience flood impacts including increased stress and displacement. There is good evidence that policies for household insurance and property level protection measures have the potential to increase inequalities; other measures (community engagement; planning; defences) may reduce health inequalities, depending on implementation and local context. Adaptation to coastal change requires a range of approaches in the short and longer term, which potentially exacerbate current inequalities. Adaptation responses that rely on individual behaviour change, such as relocation, purchasing insurance, or retrofitting dwellings, may exacerbate inequalities within coastal communities. Climate change challenges organisations to deliver national and local policy responses ensuring that adaptation is effective and equitable.

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Climate Change Impacts on Respiratory Health: Bridging Inequalities in Children and Adults

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Respiratory diseases rank as the third leading global cause of mortality, with climate change exacerbating their prevalence and severity. Wild fires, floods, extreme heat events, infectious diseases, urban air pollution and aeroallergen exposure contribute to respiratory health deterioration. Vulnerable populations, including individuals with pre-existing lung conditions and children, bear a disproportionate burden of these effects. We centrepiece the connection of climate change to respiratory health inequalities, while bridging the evidence gap regarding increasing extreme heat and cold events, ambient and indoor air pollution exposure with significant ramifications on respiratory health. Specifically, we will showcase research on the tailored, multidisciplinary NCD prevention package named FRESHAIR4Life, targeting air pollution exposure in mid- to late adolescents from disadvantaged populations. Given the high burden of non-communicable diseases (NCDs) and air pollution exposure as major contributors, urgent preventive interventions are required, particularly in disadvantaged populations. Initiating preventive interventions during adolescence is considered an optimal window of opportunity for long-term health benefits. Furthermore, we will present a robust evidence base delineating climate change's impact on lung health among vulnerable European populations. We will discuss how narratives on climate-induced lung health issues are co-created with affected communities and stakeholders to facilitate policy translation. The aim of these presentations is to break silos among health professionals, fostering collaboration from the respiratory community to the public health community. Through lung health collaborations we seek to deepen understanding and catalyze action to address the intersection of climate change, respiratory health, and inequalities, ultimately working towards a healthier and more equitable health for all.

5.E. Round table: Crafting Policies for Health Promotion: evidence from local settings

Abstract citation ID: ckae144.287

Organised by: WHO Regions for Health Network

Chair persons: Ana M Carriazo (Spain), Bettina Maria Menne (Italy)

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As communities vary in their needs, challenges, and resources, tailoring health promotion policies to specific contexts becomes imperative for effectiveness. Drawing upon the expertise of seasoned practitioners, policymakers, and researchers, this workshop offers a multifaceted perspective on navigating the complexities inherent in designing, implementing, and evaluating locally tailored health promotion policies, with a specific focus on environmental and social factors. The workshop will make it possible to compare different experiences from various European countries, with high-level speakers who have different backgrounds and roles in their countries and regions, thus providing an interesting and interactive way of comparing and examining real-world examples and best practices. The examples provided delve into: participatory techniques to design healthier environments, to identifying, collecting and elaborating evidence upon which to build policies and actions that are effective in addressing specific health challenges. Through the examples presented, we will seek to make the case for multi-actor and multi-sectoral collaboration. In addition, we will try to understand How do subnational authorities and partners identify priorities for action. A common question asked to the speakers will therefore: how can a variety of actors (local and regional authorities, university and research centres...) come together to support cross-sectoral action? How can policymakers be supported towards creating environments that prioritize the well-being of all, ensuring a healthier and more prosperous future for everyone? The end goal will be to enable attendees to be equipped with actionable strategies and tools to foster meaningful change within their own communities, by understanding the intricate interplay between community dynamics, stakeholder engagement, evidence-based practices, and policy implementation strategies. The workshop is being organized by the WHO Regions for Health Network (RHN).

Key messages:

- Tailoring health promotion policies to specific contexts is imperative for effectiveness, considering the diverse needs, challenges, and resources of different communities.
- Subnational authorities and partners must identify priorities for action and collaborate across sectors to address specific health challenges effectively.

Speakers/Panelists:

Klara Dokova

Medical University of Varna, Varna, Bulgaria

Camilla Ihlebaek

Norwegian University of Life Sciences, Aas, Norway

Jo Peden

Public Health Wales, Cardiff, UK

Odile Mekel

NRW Centre for Health, Bochum, Germany

Liesbeth van Holten

Province of Utrecht, Utrecht, Netherlands

5.F. Scientific session: Staying cool: innovative solutions for an ageing population in a warming Europe

Abstract citation ID: ckae144.288

Organised by: DG SANTE European Commission

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The EU is facing the dual challenge of climate change and rapid population ageing: temperatures in Europe are warming more rapidly than in the rest of the world and at the same time the number of those aged 85 years or more in the EU is projected to more than double by 2050. The increase of morbidity and mortality due to extreme heat is higher in older adults compared to the other age groups. During the workshop, we will first address the effect of heat waves and raising temperatures on older adults' health and then present and discuss possible innovative tools and actions to minimise their impact on the EU ageing population.

Objectives: Emphasise the importance of addressing heat waves and raising temperatures including their impact on NCDs, with a focus on the implications for the ageing population; Present the reinforced activities of the Climate and Health Observatory, focusing on raising temperatures and heat waves; Discuss possible measures at EU level, multisectoral collaboration, the synergies and possible trade-offs between adaptation and mitigation measures; Discuss innovative solutions to minimise the impact of raising temperatures and heat waves on older adults.

Speakers/Panelists:

- Projections of heat exposure of older adults and the consequences.
- The European Climate & Health Observatory – presentation of reinforced & broadened activities.
- Measures for adapting to and protecting against the effects of heat waves and warming.
- Tackling the problem at the source: mitigating the contribution of the healthcare sector to GHG emissions/climate change.

5.G. Pitch presentations: Dietary patterns and behaviours

Abstract citation ID: ckae144.289

Mediterranean Diet, ultra-processed food consumption and semen quality in healthy young men

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Background: Diet quality can have beneficial effects on male reproductive health, although studies are still limited, and little is known on the potential impact of ultra-processed foods (UPFs) on semen quality parameters.

Methods: A cross-sectional analysis was run on 126 participants (mean age 20.0 ± 1.2 y) from the FAST randomized controlled trial in 2018-2019. Food intake was assessed through a FFQ. UPF was defined following the Nova classification and calculated as the ratio (weight ratio) between UPF (g/d) and total food (g/d). Adherence to the Mediterranean Diet (MD) was ascertained by the Mediterranean Diet Score (MDS). The semen analyses were performed using a microscope for optical evaluation with a Makler counting chamber and two automated semen analysers. The primary outcomes were sperm volume, concentration, motility and morphology. A hierarchical mixed model approach was utilized to accommodate the within-subject correlation arising from the triple temporal repetition of measurements.

Results: Highest UPF consumption (Q4), compared to lowest (Q1), was associated with lower sperm concentration (β=-54.1×106 spz./ml; 95%CI: -92.9 to -15.4; p-trend=0.002 across quarters), and progressive motility (β=-14.2%; 95%CI: -28.2 to -0.09; p-trend=0.036). The percentage of cells with normal morphology tended to be reduced in young men consuming more UPF compared to lowest intake (β=-2.93%; 95%CI: -6.22 to 0.37; p-trend=0.071). The MDS was not associated with any of the parameters under study.

Conclusions: A larger dietary share of UPF was inversely associated with sperm concentration and progressive motility in young men of reproductive age. MD adherence was not associated with semen quality parameters, and this is possibly due to the low variability of MD adherence in this sample. Dietary recommendations for improving sperm health should prioritize limiting UPF in the diet.

Key messages:

- Ultra-processed food (UPF) intake was unfavourably associated with semen quality parameters amongst young men.
- Dietary recommendations for improving sperm health should recommend limiting UPF.

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Diet quality trajectories from infancy to age 18 and their association with diet quality at age 26

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Background and objectives: Dietary habits during childhood and adolescence show strong stability. However, no studies have investigated dietary trajectories from infancy to adulthood. We therefore aimed to 1) identify diet quality trajectories from age 1 to 18 years and 2) explore how trajectories are associated with diet quality at age 26 years.

Methods: The study included 620 individuals from the Special Turku Coronary Risk Factor Intervention Project (STRIP), started in infancy ($n = 1062$). Food and nutrient intake was assessed annually from age one to age 18, and again at age 26 using 4-day food records. A food-based diet score (range 0-33) was calculated to indicate diet quality. Group-based modelling was used to model trajectories of diet quality between the ages of 1 and 18 years. Linear regression analyses were used to investigate associations between the diet quality trajectory groups and diet quality at age 26 years.

Results: By the age of 18, we found five diet quality groups: 1) low (19% of participants) with a mean diet score of 12 points, 2) decreasing (25%) with a mean diet score of 15 points, 3) increasing (15%) with a mean diet score of 16 points, 4) intermediate (31%) with a mean diet score of 18 points, and 5) high (10%) with a mean diet score of 22 points. The diet quality trajectory groups were associated with 0.4 (decreasing), 2.5 (medium), 3.8 (increasing) and 4.1 (high) points higher diet scores at age 26 compared to the low diet quality trajectory group ($p < 0.001$ for all).

Discussion: Five distinct dietary trajectories were found from infancy to late adolescence, with a clear difference between the groups with the lowest and highest diet quality. However, the differences in diet quality levelled out by the age of 26 years. Our results suggest that diet quality established already in childhood moderately predicts diet quality into adulthood.

Key messages:

- Diet quality established in childhood moderately predicts diet quality in young adulthood.
- Five distinct dietary trajectories were found from infancy to late adolescence, with a clear difference between the groups with the lowest and highest diet quality.

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Dietary Pattern Trajectories in French Adults Over Time (2014-2022): Role of Socioeconomic Factors

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While dietary transitions towards more plant-based diets are urgently needed, few studies have investigated current diet trajectories, based on observed longitudinal data. This study investigated current dietary transitions of French adults over an 8 years period (2014-2022), while assessing the nutritional quality of the consumed foods and the role of diverse socio-economic factors. Consumption data from 17,187 NutriNet-Santé cohort participants weighted for the French Census were collected using a food frequency questionnaire in 2014, 2018, 2022. Adopting a gender-specific approach, consumption changes in 23 food groups were assessed over time. The nutritional quality was evaluated using the cDQI score, categorizing foods into 'healthy' and 'unhealthy'. The socioeconomic analysis targeted four food groups (red meat, processed meat, legumes and wholegrain products), strongly linked to mortality risk and recognized as significant markers of the sustainable diet transition. All analyses were conducted using multi-adjusted mixed-effects models. Consumption of some healthy plant-based foods (nuts +59 %, legumes +22%, wholegrain products +7%) significantly increased over time; while consumption of some unhealthy foods (red meat -19%, refined cereals -18%, sweet drinks -15%) decreased. Conversely, consumption of prepared and mixed dishes (+16%), processed meat (+35%) and butter (+100%) increased. These changes differed in magnitude between sexes and translated into an improved food quality score (cDQI). Occupational status was linked to longitudinal changes in food consumption, showing increased intake of plant-based foods among students and higher socio-professional categories. Our findings provide accurate data on trends and factors for targeted initiatives, guiding strategic interventions for a sustainable dietary transition.

Key messages:

- Plant-based food consumption increased while unhealthy food intake, both plant and animal-based, decreased; Gender differences were observed in baseline consumption and the extent of changes over time.
- Occupational status was linked to longitudinal changes in food consumption. Increased intake of plant-based foods was observed among students and higher socio-professional categories.

Abstract citation ID: ckae144.292
Unlocking adolescent dietary behaviours: the causal role of social contexts

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Background: Using a causal inference framework, our study aimed to extend previous work in providing a comprehensive understanding of the role various social contexts across different levels can play in predicting adolescent dietary behaviours.

Methods: Data came from the 2017/18 Health Behaviour in School-aged Children (HBSC) survey in Flanders (Belgium). The sample included representative data from 8,702 adolescents in 165 schools. Social factors at individual-level (family meals, family, peer, student and teacher support) and at contextual-level (school culture of student and teacher support and school-level socioeconomic status [SES]) were considered. Multilevel logistic regression analyses were performed.

Results: At individual-level, family meals and family and student support were positively associated with fruit and vegetable consumption, family meals with sweet consumption too. Student and teacher support showed positive associations solely with fruit consumption. At contextual-level, adolescents attending schools with a lower school-SES demonstrated lower vegetable consumption. Culture of teacher support was negatively associated with sweets but also vegetable consumption. For culture of student support no associations were found.

Conclusions: The study mainly provide cues for strengthening family social ties as dietary health promotion initiatives, with some evidence supporting the role of beneficial peer and school social factors. Mixed results for contextual school-level social factors warrant further research to identify additional school-related influences on adolescent dietary behaviours to advance current understandings.

Key messages:

- Family meals and support promote healthy eating in adolescents, emphasising the health promoting role of family social ties in dietary habits.
- Mixed findings on school-level social factors call for more research on school health policies.

Abstract citation ID: ckae144.293
Development of rapid methods to monitor nutritional standards in sustainable healthy public catering

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Background: The WHO and FAO in the Second International Conference on Nutrition stress the role of nutrition standards for public facilities catering services (CS) and in the Sustainable Healthy Diet guiding principles (SHD) underline synergies among foods, nutrients present in dietary patterns and their bioavailability, degree of food processing, and subsequent health impact. In Italy almost one in 10 people eat a meal in CS every day. In accordance with SHD, the Italian Ministry of Health (MH) in the national guidelines for CS indicate activating procedures for the conservation of nutritional qualities (NQ) of micronutrients and bioactive substances. The central purchasing body of the Region of Friuli Venezia Giulia have applied these criteria, introducing the process of critical control points of nutrient analysis (NACCP) in the Public Procurement for the school catering of 69 municipalities and for all 18 regional hospital with more than 3 million meals per year served. The aim of the project was to develop rapid and cheap methods for monitoring the NQ of meals by applying the NACCP process.

Methods: 150 samples of pasta, milk and also vegetables, meat, fish with different degrees of processing, were taken from the CS and analysed both with chemical techniques and with optical rapid techniques (1300 analyses).

Results: The samples were subjected to conventional analyses to determine the oxidation state and the content of characterizing molecules such as polyphenols, histamine, and total compounds of Maillard. The same samples were then analyzed by color measurements. The results showed a good correlation between the two analytical systems, in particular the color measurements and the Maillard compounds and the color measurements and the oxidation state.

Conclusions: Project findings can be applied in the NACCP process to rapidly cost-effectively monitor the nutritional quality of CS meals, and adhere to WHO and FAO the SHD guiding principles and MH guidelines for CS.

Key messages:

- The development of rapid methods of monitoring the nutritional standards of public catering can implement sustainable food systems thereby promoting the healthy diets recommended by the FAO and WHO.
- Rapid methods of monitoring nutritional standards represent an innovative component in improving the culture of food and nutritional security in public catering.

Abstract citation ID: ckae144.294
The updated nutrient profile underlying the Nutri-Score label and adult weight gain: A cohort study

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Introduction: Nutrient profiling systems are key tools in the development of nutrition-related policies. Their prospective associations with health outcomes are a crucial step in assessing their validity as public health measures. In 2023, the nutrient profiling system underlying the Nutri-Score -a nutrition front-of-pack label used in the European Union- was updated. The present study aims to investigate the updated nutrient profile's association with weight gain, overweight and obesity.

Methods: The dietary and anthropometric data of 75,775 participants of the Nutrinet-Santé cohort study was retrieved for this study. Standardized dietary indices derived from both nutrient profiling systems (the 2015 NS-NPM DI (initial profile) and 2023 NS-NPM DI (updated profile)) were computed based on at least 3 24-hour dietary records upon the first two years of inclusion in the cohort. The associations between these indices and the risk of developing overweight and obesity were assessed using Cox proportional hazard models and weight gain using mixed models.

Results: Participants with a higher 2023 NS-NPM DI (i.e. a poorer nutritional quality of diet) were more likely to gain BMI over time (T3 vs. T1: +0.23% points of BMI/year, $p < 0.0001$), had a higher risk of developing overweight (HR T3 vs. T1: 1.33 [95% CI: 1.24-1.43]) and obesity (HR T3 vs. T1: 1.29 [95% CI: 1.14-1.45]). Overall, the 2015 NS-NPM DI displayed similar associations and effect sizes with the outcomes and the predictive ability of the two indices on overweight and obesity risk was not significantly different ($p = 0.32$ for overweight risk, $p = 0.09$ for obesity risk).

Conclusions: These results constitute a step in the validation of the recently updated nutrient profiling system and help support its use in public policies for non-communicable diseases prevention.

Key messages:

- The 2023 updated nutrient profiling system underlying the Nutri-Score was associated with weight gain and obesity, two important risk factors in the development of non-communicable diseases.
- The 2015 and 2023 NS-NPM DI showed similar prospective associations with overweight and obesity risk.

Abstract citation ID: ckae144.295
Child-targeted foods in the Portuguese market 2024: Nutritional characteristics and claims

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Background: Excessive consumption of high-energy products with high saturated fats, sugars, and salt contents, contribute to the prevalence of overweight, obesity and other related diseases in Portugal, especially among children. Children represent a vulnerable group whose food choices are significantly influenced by advertisements and marketing methods that often promote highly palatable and less healthy foods. This study aimed to assess the nutritional characteristics of visually appealing products targeted at children in Portugal and analyse nutritional, health, and other mentions and claims, as well as icons present in the package. The goal is to contribute to the promotion of healthier food choices and inform public health policies.

Methods: Nutritional information and mentions/claims from child-targeted foods, featuring labels with cartoons and other appealing images, were collect. These were compared with the reference values (RV) of Integrated Strategy for the Promotion of Healthy Eating (EIPAS) and of Directorate-General of Health Label Decoder (RVLD), as well as the limit values (LV) defined by a Portuguese law related to restrictions on food advertising aimed at children.

Results: 247 products from six categories were monitored. Only 1.2% met the EIPAS RV for sugar and salt evaluated together, while 10.1% complied with the law LV. According to the RVLD, 19.0%, 26.3%, 49.4%, and 0.4% of the products presented high levels of fat, saturates, sugars, and salt, respectively. The majority of the products (68.0%) had one or more types of mentions/claims, predominantly nutritional (64.3%) and all featured one or more icons, with 10.5% being licensed.

Conclusions: The majority of these pre-packed child-target foods do not have a healthy nutrient profile. In this context, public health actions, namely legislative measures to further regulate food marketing and labeling elements aimed at children along with literacy and product reformulation initiatives are essential.

Key messages:

- The child-targeted food products in the Portuguese market present inadequate nutritional profiles.
- Public health actions are needed to promote healthier food choices and protect children from foodborne non-communicable diseases.

Abstract citation ID: ckae144.296
Predicting food consumption using contextual factors: An application of machine learning models

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Background: Improving diet quality relies on making manageable adjustments to eating behaviours. Personalised nutrition interventions hold promise for modifying behaviour. Machine learning (ML) offers a novel approach to examining dietary behaviours in personalised nutrition by leveraging data on past behaviours and environmental contexts. This study aims to investigate whether contextual factors at eating occasions (EO) can predict food consumption to enhance diet quality.

Methods: Cross sectional data from the Measuring Eating in Everyday Life Study (MEALS) were analysed (n = 675, 18-35y). A smartphone food diary app recorded dietary intakes at EO for 3-4 non-consecutive days, also capturing social-environmental (e.g., activity) and physical-environmental factors (e.g., consumption location). Participant characteristics were collected via an online survey. Food groups intake (servings per EO) followed Australian Dietary Guidelines. This study benchmarked two established models, gradient boost decision tree and random forest, which have previously shown high performance in similar tasks. Performance was evaluated using 10-fold cross-validation, measuring mean absolute error (MEA), root mean square error (RMSE), and R squared. Feature importance analysis identified key variables for predicting food consumption.

Results: ML predicts most food groups at EO using contextual factors, with slight differences between actual and predicted consumption (<1 serving per EO). For fruits, dairy, and meat, MEA values were 0.35, 0.34, and 0.56 servings, respectively (RMSE values: 0.61, 0.50, and 0.80 servings). Self-efficacy, age and consumption location were influential in most ML models.

Conclusions: ML offers insights into contextual factors and food consumption, suggesting directions for precision nutrition interventions. Future research should identify positive influences of contextual factors on dietary behaviours and incorporate these insights into interventions.

Key messages:

- Machine learning can effectively predict food consumption based on contextual factors at eating occasions.
- Understanding the influence of contextual factors such as consumption location on food consumption can inform the development of precision nutrition interventions aimed at improving diet quality.

5.H. Oral presentations: Patient care and preparedness

Abstract citation ID: ckae144.297

Associations between general practice and outpatient care continuity in people with multimorbidity

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Background: Relational continuity in primary and secondary care is linked to better health outcomes for patients, but it is unclear whether metrics of continuity in each setting are associated. Our study examined the association between relational continuity in general practice (GP) and continuity of hospital outpatient specialties in people with clusters of multimorbidity.

Methods: We used GP records from the Clinical Practice Research Datalink, linked to Hospital Episode Statistics outpatient records. Included were patients ≥18 years, with two or more of 212 Long-Term Conditions (LTCs), registered throughout 2019 and with at least three GP and three outpatient appointments. The Continuity of Care Index (COCI) was calculated separately for visits to the same i) GP and ii) hospital specialty, where 0 represents no continuity and 1 represents all visits to the same GP or specialty. We assessed the association between the indices using univariable and multivariable fractional logit regression. We calculated expected COCI scores for each LTC and assessed variation in the COCI between LTCs assigned to one of 15 clusters of co-occurring diseases derived previously. A sensitivity analysis repeated analysis using the Sequential Continuity (SECON) score, which captures longitudinal continuity.

Results: Of 1,135,903 patients, 56.2% were ≥60 years. The median (IQR) COCI in GP was 0.22 (0.11-0.40) and in outpatients was 0.33 (0.20-0.52). Although statistically significant ($p < 0.001$) the relationship between the two measures was clinically insignificant in both univariable and multivariable models. No strong relationships were found between COCI scores and LTC clusters. Similar patterns were found using the SECON score.

Conclusions: We found no strong association between continuity of care in GP and outpatient settings, and no clear patterns with LTC clusters. This suggests that lack of continuity in secondary care is not compensated for by increased continuity of care in primary care.

Key messages:

- We found no meaningful association between measures of continuity of care in general practice and hospital outpatient settings.
- Our findings suggest that lack of continuity of outpatient care is not compensated for by increased continuity in primary care.

Abstract citation ID: ckae144.298

The state of primary health care systems in ten high-income countries

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Primary care systems in high-income countries perform comparatively better than the U.S. system in large part due to decades of investment, an adequate workforce supply, and universal healthcare. This research identifies successes and areas of improvement of 10 high-performing primary care systems in four areas of care: 1) access, 2) continuity, 3) comprehensiveness, 4) and coordination. Cross-national comparisons using primary data from the 2022 CMWF International Health Policy Survey of Primary Care Physicians (N ranged from 321-2,092) and the 2023 CMWF International Health Policy Survey on the General Population (N ranged from 750-4,820). Countries included: Australia, Canada, France, Germany, Netherlands, New Zealand, Sweden, Switzerland, the U.K., and the U.S.

- More than 90% of adults in all surveyed countries reported having a regular primary care doctor except Sweden, the U.S., and Canada.
- Less than 5% of physicians reported high telehealth use in their patient encounters, except for in the U.K. and New Zealand where over 10% reported high use.
- Over a quarter of physicians in the U.S., Germany, and France report screening patients for social needs, compared to just 8% in the Netherlands.
- Care coordination with social services was a major challenge in all surveyed countries, with over 75% of physicians in the U.K., Australia, and France reporting major challenges.

Primary care systems in 10 other high-income countries outperform the U.S. system, particularly when it comes to access to care and care continuity. Policy options to consider for U.S. policymakers include narrowing the wage gap between generalist and specialist physicians and rewarding and holding providers accountable for continuity of care. On the other hand, countries like Sweden and the Netherlands can learn from the U.S. on how to adequately coordinate care between primary care physicians, specialists, and hospitals.

Key messages:

- Investment in primary care yields better health outcomes, greater equity and lower costs.
- Many high-income countries in Europe have high performing primary care systems, something the U.S. system can learn from.

Abstract citation ID: ckae144.299

Preparedness and Public Health: an Italian Local Health Authority plan for a mass gathering in 2023

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Issue: Mass gatherings represent an important Public Health challenge. The increased number of people present in a specific area puts local health systems under stress (i.e.workload of emergency services, environmental health and food safety) and at the same time it rises the risks of a potential mass casualty incident. Effective planning and disaster preparedness have to be achieved through collaboration among local health authorities(LHA) and other stakeholders (event planners, law enforcement, local transportation services).

Problem: Every year, for 3 days, the Italian Alpine troops gather in a different city to remember First World War fallen. During those days, the city centre transit is not allowed to car (in specific areas even to emergency vehicles).In May 2023 this event occurred in Udine, a city in the North East of Italy with almost 100.000 inhabitants. For that year at least 300.000 participants were expected. LHA had to reorganize preparing itself to manage a temporary quadrupled catchment area.

Results: In the previous months, local authorities met local health representatives and other stakeholders in order to define a single emergency response plan. For healthcare services it was decided to: institute first aid points within the city; reorganise patients' emergency transport system; increase hospitals' treatment capacity (beds, life support equipment); increase healthcare professional availability; empower drugstores (opening times, drugs procurement); strengthen human and animal health surveillances;activate alternative communication systems. During the event, LHA updated other authorities involved three times a day about hospital and emergency system situation. At the end of the event,a multiprofessional debriefing meeting was held and no critical situations were reported.

Lessons: Preparedness requires a great commitment in terms of resources and time, but it is confirmed to be essential to guarantee adequate assistance even in extraordinary conditions.

Key messages:

- Mass gathering s events put under stress all the main areas of public health system.
- Public health preparedness cannot be effective without a strong involvement of other public and private stakeholders.

Abstract citation ID: ckae144.300

Emergency preparedness in healthcare systems: the "policy-effect" of COVID-19

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The COVID-19 pandemic has highlighted that health services preparedness is crucial. Indeed, effective planning enables streamline operations, optimized resource allocation, and transparent communication during crises. Within this context, our analysis aims to assess EU countries' healthcare systems preparedness, by policies analysis and capacity factor analysis, and relationship with COVID-19. We reviewed policies regarding influenza, antimicrobial resistance (AMR), and climate change in EU countries, using a web-screening of national and international authorities and institutions. Furthermore, we performed a factor analysis on WHO's States Party Self-Assessment Reporting (SPAR) and evaluated the results using an iterated principal factor analysis with promax rotation. Few countries updated their policies after the pandemic, particularly regarding influenza plans. Italy stands out as an exception, having updated its national plan in 2021, while other countries maintain pre-COVID plans. Regarding AMR, only few countries, including Sweden, Netherlands, Malta, Germany, Spain, Belgium, and France, updated their plans post-pandemic, while Estonia and Romania lack plans entirely. Addressing the climate crisis and its impacts on health and healthcare resilience, all EU countries aligned with the EC regulation on climate action through National Energy and Climate Plans in 2023. Moreover, EU countries had average preparedness level of 75.77 (SD: 8.23), calculated on SPAR 2022, with significant disparities. Three major factors contribute to preparedness levels: planning, service delivery, and specific subtopics (e.g. food safety, radiation, infectious diseases). Our findings reveal the complexity of preparedness, showing diverse approaches across countries, despite EU regulations and WHO guidelines. International collaboration is crucial to standardize policies and enable countries to leverage successful examples, improving public health outcomes.

Key messages:

- Health services preparedness, underscored by the COVID-19 pandemic, is crucial for effective planning and crisis management.
- The analysis demonstrates varying levels of preparedness across EU countries, with differences in policy updates and adherence to international guidelines.

5.I. Scientific session: Epidemiological insights into vaccine hesitancy in Europe: building bridges and overcoming barriers

Abstract citation ID: ckae144.301

Organised by: EUPHA-EPI, -ETH, -IDC, -HTA, Faculty of Public Health (UK)
Chair persons: Chiara de Waure (EUPHA-HTA), Farhang Tahzib (EUPHA-ETH)
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Vaccine hesitancy remains a pivotal challenge in public health, undermining immunization efforts and the containment of infectious diseases across Europe. This scientific session aims to dissect the complex nature of vaccine hesitancy, uncovering epidemiological trends and barriers to vaccine acceptance, particularly in diverse demographic contexts. The objective is to facilitate a comprehensive understanding among public health stakeholders and to foster actionable strategies through enriched dialogue and interaction. This session will delve into recent studies and projects that highlight the variability of vaccine hesitancy within Europe. First, an exploration of COVID-19 vaccine acceptance will reveal how sociodemographic factors influence vaccine-related behaviors across 20 European nations. This will be complemented by an analysis of targeted interventions designed to enhance vaccine uptake among migrant populations, drawing lessons from the RIVER-EU project. Additionally, a focus on national efforts to combat measles vaccine hesitancy will provide a case study on the challenges and successes in altering public health narratives. Based on the feedback received on last year's session, the format is intended not only to provide a platform to present empirical evidence and insights but also to encourage a participatory environment where attendees can exchange ideas and propose innovative solutions. For this reason, the session will engage the audience through an interactive discussion period at the end of each of the three presentations, stimulating thought-provoking dialogues that could lead to effective and innovative public health practices. Fostering international and interdisciplinary collaboration in the field of vaccine hesitancy is key for continued monitoring and reporting on the vaccine hesitancy phenomenon and inspiring actionable solutions.

Key messages:

- Sociodemographic factors are associated with vaccine hesitancy across Europe indicating the potential for targeted strategies.
- A platform to share insights and inspire actionable public health solutions to combat vaccine hesitancy amomg European public health professionals is needed.

Abstract citation ID: ckae144.302
Prevalence and sociodemographic correlates of COVID-19 vaccine acceptance in 20 European countries

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Our study aimed to analyze the prevalence and socio-economic factors associated with COVID-19 vaccine hesitancy using individual data from representative national samples of 20 European countries. Data from round 10 of the European Social Survey, collected from May 2021 to September 2022, were analyzed. Prevalence (with a 95% confidence interval (CI 95%)) of participants' intention to get vaccinated against COVID-19 was calculated. Crude differences in vaccine hesitancy proportions across sociodemographic strata were assessed using the Chi-square test. There were 31,771 adult participants (46.0 % men). The percentage of those hesitant (i.e. those who were not already vaccinated and intended not to be) toward the COVID-19 vaccine was 18.0% (CI 95% 17.6 - 18.4). Men and women were equally hesitant (18.0% vs. 18.0%, $p = 0.93$). There were differences between those under 40 (22.9%), adults between 40 and 59 (18.1%), and those over 60 (14.3%, $p < 0.001$). The unemployed had a higher proportion of hesitancy (32.9%) compared to the employed (17.4%), retirees (14.8%), and students (21.1%, $p < 0.001$). People living in rural areas have higher levels of hesitancy compared to those in urban areas (19.3% vs. 17.3%, $p < 0.001$). The estimates indicate that the highest prevalence of vaccine hesitancy was in Bulgaria (61.6%), Slovenia (40.4%) and Slovakia (30.7%), while Iceland (2.3%), Portugal (3.6%) and Italy (4.0%) had the lowest. Our study confirms high prevalence and high variability of hesitancy towards COVID-19 vaccines in Europe and identify groups for potential targeted interventions.

Abstract citation ID: ckae144.303
Don't pass me by: Tackling vaccine hesitancy among migrants via the RIVER-EU project

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Literature research has suggested that vaccination hesitancy (VH) has been increasing in recent years across migrant populations. It poses various challenges, including risks of outbreaks, and re-emergence of diseases. Nevertheless, only few studies provide an insight of the interventions successful in tackling VH among these groups. This presentation will describe a multi-country research enterprise that aims to respond to these needs. The "RIVER-EU - Reducing Inequalities in Vaccine uptake in the European Region - Engaging Underserved communities" project (funding from EU's Horizon 2020, Grant Agreement No. 964353) involves several underserved communities, such as Ukrainian migrants (UMs) in Poland, migrants and refugees in Greece, females with Turkish/Moroccan migration background in the Netherlands and the marginalized Roma communities in Slovakia. The project aims at improving child and adolescent HPV/MMR vaccination among these communities by implementing tailored interventions, suitable for each target country. The focus is on removing health system barriers to vaccination. The data regarding VH are an important by-product of the RIVER-EU project, and shows the connection between perceived access barriers and VH. A project-based approach to combat VH among UMs in Poland will serve as a case study to demonstrate the complex process of development of adequate interventions, that could be used to support this migrant group, with disturbingly low vaccination uptake. However, this presentation will go beyond this case study findings - a review of the existing evidence will help generalize our results. Overall, this presentation will show to how investigating various drivers of under-immunization helps to assess what approaches, strategies and interventions are effective to combat VH among marginalized migrant groups.

Abstract citation ID: ckae144.304
The Scourge of measles

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Once considered a disease of the past, the resurgence of measles in England has garnered significant attention in recent weeks and months. The uptake of routine childhood vaccines including the measles, mumps and rubella (MMR) vaccine is the lowest it has been in a decade and is well below the 95% uptake needed to protect the population and prevent outbreaks. This is giving this serious disease a chance to get a foothold in our communities. From having never seen a case of measles in their life time doctors in England are now notifying cases of measles based on clinical suspicion. Since October, we have seen a rapid increase in both measles cases and outbreaks of measles across England (the total number of cases confirmed since October 2023 to date is 1109) and it has been declared a national incident. The abstract highlights the consequences of vaccine hesitancy, illustrated by case studies of outbreaks of measles among susceptible populations such as schools and prisons and the steps being taken to control the spread. Social media misinformation, distrust in healthcare authorities, and concerns over vaccine safety are some of the factors shaping parental attitudes towards MMR vaccination. In response to these challenges, the abstract underscores the importance of targeted interventions aimed at addressing vaccine hesitancy, such as community engagement initiatives, tailored communication strategies, and healthcare provider training. By emphasizing the critical role of MMR vaccination in preventing measles resurgence, this abstract advocates for a collaborative approach involving healthcare stakeholders, policymakers, and the public to combat to combat this preventable yet persistent threat to public health.

5.K. Scientific session: Health literacy in Ireland: A participatory action approach with Sláintecare Healthy Communities

Abstract citation ID: ckae144.305

Organised by: Dublin City University (Ireland)
Chair persons: Hannah Goss (Ireland), Talent Nyamakope (Ireland)
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This workshop offers a comprehensive exploration of the dynamics, challenges, and opportunities surrounding health literacy in Ireland. In 2023, Dublin City University and Sláintecare Healthy Communities, driven by a commitment to foster equitable healthcare access and outcomes, embarked on a research project aimed at deciphering the intricacies of health literacy and its implications for public health in Ireland. The series of interactive presentations will transparently share learnings from the process and outcomes of this project, which can be applied across different sectors, contexts, and countries. The workshop will begin with an overview of the rationale underpinning Sláintecare Healthy Communities' engagement in this research project. This is one of the first pilot programmes of its kind. By transparently exploring the driving forces and strategic approaches of this organisation, participants will gain insight into the imperative of addressing health literacy from the perspective of a cross-government and multi-discipline initiative. Following from this, a series of presentations will detail the rigorous scientific approaches undertaken. This includes an umbrella review of international conceptualisations of health literacy and a systematic review of health literacy research conducted on the island of Ireland in the last decade. Findings from these reviews highlight the evolving challenges and emerging trends shaping health literacy practices nationally and internationally. It is also recognised that responsive health literacy development requires thoughtful involvement of diverse local communities. Programmes and actions that 'leave people behind' can exacerbate health inequalities. As a result, meaningful community based participatory research, including innovative design thinking approaches, were utilised throughout this project. The Sláintecare Healthy Communities Programme identified two contrasting areas to participate in this work, presenting both an urban and rural context. The health literacy strengths, needs and issues encountered in these communities will be presented in the community members own words. This workshop will close with the presentation of a series of co-designed, and crucially actionable, recommendations for evidence-based best practices in health literacy promotion in Ireland. Leveraging the synthesis of research findings and stakeholder insights, a number of actions aimed at enhancing health literacy proficiency and fostering health equity will be detailed. This presentation in particular will be interactive, and will challenge participants to identify health literacy promoting actions that may be suitable for their own contexts. This workshop offers a timely and pragmatic exploration of health literacy promotion in Ireland. By fostering dialogue, knowledge exchange, and collaboration, the workshop serves as a catalyst for transformative change, paving the way towards more inclusive, equitable, and health-literate societies, both in Ireland and beyond.

Key messages:

- This workshop offers a timely and pragmatic exploration of health literacy promotion in Ireland.
- Presenters from both practice and research will detail how the needs analysis was conducted, and how we suggest these co-designed recommendations can be actioned.

Abstract citation ID: ckae144.306
Slaintécare Healthy Communities: Engaging with evidenced based best practice to promote health literacy in Ireland

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This workshop will include a blend of presenters from both practice and research, with tangible examples of how the needs analysis was conducted, how meaningful partnerships were developed, and how we suggest these suggestions can be brought to life. This opening presentation will set the scene, detailing the role of Sláintecare Healthy Communities, the rationale for a focus on health literacy, the incredible value of adopting a meaningful participatory approach, and learnings from collaborating with a research team/project.

Abstract citation ID: ckae144.307
Contemporary understanding of health literacy across the Island of Ireland

Craig Smith

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This presentation will detail two reviews that provided contextual understanding for this project. The first, an umbrella review which explored i) How is health literacy currently defined and operationalised nationally and internationally? And ii) What are the key components and principles of health literacy? The search was limited, most notably, to systematic reviews published after 2012. A total of 12 studies were included for data extraction and narrative analysis. Findings provided an update of the conceptual understanding of health literacy, emphasising the complex and multidimensional nature of the concept. Dimensions are common, but growing, and moving beyond just individual capabilities. The second, moving beyond the definition, details a systematic review that aimed to gain a contemporary understanding of health literacy through identifying and appraising existing research conducted in an Irish context. Seven electronic databases were searched between October and December 2023. Initial search identified 551 records, following screening, 37 studies were included in this review. Narrative analysis indicated that across the Island of Ireland in the last decade, many studies had narrow populations of focus (i.e. Dublin based, adults, chronic illness populations), limited research design and methodologies (cross-sectional, narrative, and primary research with short time frames), and lacked rigorous monitoring and evaluation of health literacy as a primary or secondary outcome. While studies highlighted clinical, education and community implications, a limited focus on mental health was also observed. Findings from this systematic review offer valuable insights and recommendations for future efforts to enhance health literacy and the health and well-being of individuals across the island of Ireland.

Abstract citation ID: ckae144.308
Creating opportunities for community voices to be heard

Maeve Murray

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This presentation will showcase the importance of community based participatory research in developing health literacy in Ireland. Purposeful sampling ($n = 105$: 71% female) in two contrasting Sláintecare Healthy Community areas in Ireland (Finglas & Cabra and Mayo), recruited participants to take part in semi-structured focus groups, or individual interviews. Using reflective thematic analysis, and a critical friend approach, five key themes were identified that demonstrated the strengths, needs and challenges in health literacy in urban and rural communities in Ireland. This included: i) Accessing and understanding health information; ii) Health literacy changing over time; iii) Perceiving health literacy as an individual responsibility; iv) Interpersonal and community influences on health literacy; and v) Health access through a rural or urban infrastructure. There were many similarities between rural and urban, young and old. Equally, there were unique challenges that required local solutions. As such, the next phase of this project utilised a co-design process to check, challenge, collaborate and create recommendations for health literacy solutions in each case study area. A specific method of experience-based co-design, the Double Diamond Design Approach (DDDA) was used. With DDDA, stakeholders progress through a four-stage reflective process to discover, define, develop, and deliver an innovative solution to a problem. Two Co-design Workshops took place in March 2024 aiming to revise the strengths, barriers, needs, and propose potential recommendations for health literacy in each Sláintecare Healthy Community, using an adapted DDDA. Within the rural setting, solutions to promote health literacy spanned across transport, health access, and community based needs. Within an urban context specific suggestions around community engagement, information sharing, and earlier educational intervention were called for.

Abstract citation ID: ckae144.309
Co-designing health literacy actions: Connecting the dots to create meaningful impact

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In closing the workshop, this presentation will bring together the participatory research recommendations for promoting and developing healthy literacy in Ireland, which will be led by Slaintécare Healthy Communities in practice, dissemination and scale up. In particular, a worked example from a third Slaintécare Healthy Community (Westmeath) will be presented; a healthy literacy "Train the Trainer" professional development course for local health literacy champions. In this presentation, we will also challenge attendees to offer suggestions of how to support and facilitate other recommendations suggested by our participants, and invite them to consider how this participatory action approach to a health literacy needs analysis could be utilised in their own contexts.

5.L. Round table: Gaining or losing ground? Leveraging social innovation to improve abortion access in Europe

Abstract citation ID: ckae144.310

Organised by: Technical University of Berlin (Germany), Escola Nacional de Saude Publica (Portugal)
Chair persons: Liz Farsaci (Ireland), Astrid Eriksen (Germany)
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Sexual and reproductive health services are fundamental to ensuring a wide range of human rights, including the right to health. This includes guaranteeing access to abortion care, which international human rights bodies and the World Health Organization have recognised as a critical component of states' obligation to respect and ensure human rights. Abortion regulation in Europe continues to evolve along a continuum from restrictive to liberal. For decades, the legislative trend across Europe has been towards the expansion of entitlements to abortion, and the repeal of legal and policy restrictions. In the last ten years, over 15 European countries have undertaken reforms to modernize their laws, including Belgium, France, Ireland, the Netherlands, and Spain. Currently, new progressive reforms are being considered in several countries. However, more restrictive reforms have also been adopted. Health system structures and sociopolitical, cultural, ethical, and moral dimensions shape access to abortion services, while abortion regulation often causes tensions in countries. The landscape is complex, with debates over legalisation and decriminalisation of abortion, and the procedural steps to ensure service provision. Differences in regulation across and within countries result in myriad access inequalities. Understanding abortion regulation in Europe is vital to assessing service equity and access. Exploring the sociopolitical contexts of abortion helps identify potential actions for ensuring access to abortion care. In exploring the range of potential actions, we focus on social innovation, i.e., new social practices to better meet social needs and the processes undertaken to get there. The country expert (HSPM) network of the European Observatory has launched a cross-country study of the state of abortion services in 19 high-income countries since 2018. This workshop will outline the legal, regulatory, service-delivery, and sociopolitical contexts of abortion in Europe, identifying challenges to access. It will take recent experiences in Germany, Ireland, and Portugal to examine differential access, ongoing political debates, and social positioning of abortion in Europe, and as a springboard to discuss the role of social innovation in shaping legal and regulatory changes. Lastly, this workshop will explore how the public health research community can contribute to evidence-based abortion policymaking and implementation. This interactive workshop will start with a presentation of findings from the European Observatory's cross-country comparison. Then, country experts from the 3 case studies and a representative from the Center for Reproductive Rights will examine the sociopolitical environment of abortion policymaking in Europe. Discussion with audience interventions will reflect on opportunities for social innovation and movement building toward better access to abortion care in Europe and explore the role of the public health research community.

Key messages:

- European abortion laws constantly evolve with a prevalent legislative trend towards expanding access and removing barriers; social innovation can be a lever to progressive law and policy reforms.
- In all countries, those seeking abortion care continue to experience multiple access barriers, including those related to policy, regulation, financing, geography, and culture.

Speakers/Panelists:
Katherine Polin
Berlin University of Technology, Berlin, Germany
Miriam Blümel
Berlin University of Technology, Berlin, Germany
Catherine Conlon
Trinity College Dublin, Dublin, Ireland
Ines Fronteira
National School of Public Health - NOVA University of Lisbon, Lisbon, Portugal
Adriana Lamačková
Center for Reproductive Rights, Geneva, Switzerland

5.M. Oral presentations: Addressing mental health

Abstract citation ID: ckae144.311

Longitudinal association between nonstandard work schedule and depressive symptoms

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Background: Nonstandard work schedules (NSWSs) have been linked to increased risk of depression, but the evidence is mostly from cross-sectional studies and data on the risk distribution across various groups is lacking. We examined the impact of different NSWSs on depressive symptoms and assessed effect modification by sex, ethnicity, and immigrant status.

Methods: We used five waves of longitudinal data from the Understanding Society, the UK Household Longitudinal Study, which were collected biennially from 2010/11 to 2018/19. The study sample comprised 11371 employed workers aged 16 to 58 years in 2010/11. Generalised estimating equation with logistic regression was used to assess crude and adjusted effects of NSWS types (work time arrangement, work hours, and weekend working) on depressive symptoms. Independent correlation was specified in all the models. Complete-case and multiple imputation analyses were performed.

Results: After adjusting for confounders, only weekend work was associated with depressive symptoms. Workers who worked most/all (OR 1.24; 95%CI 1.13 - 1.37) or some (OR 1.10; 95%CI 1.02 - 1.18) weekends had a higher risk of depressive symptoms than workers who did not work on weekends. Ethnicity modified the association between work hours and depressive symptoms, indicating a higher risk among White workers working $>$ 40 hours/week (OR 1.10; 95%CI 1.02 - 1.20) and Asian workers working $<$35 hours/week (OR 1.72; 95%CI 1.32 -

2.25) compared to White workers working 35-40 hours/week. No effect modification by sex or immigrant status was observed. The results were the same as those obtained from the imputation model.

Conclusions: Weekend work, long work hours (for White workers), or working < 35 hours/week (for Asian workers) were associated with increased risk of depressive symptoms. These findings indicate the need to review the working conditions of workers exposed to NSWSs, especially those working on weekends and Asian workers who work part-time.

Key messages:

- Weekend work schedule is associated with an increased risk of depressive symptoms among employed workers in the UK.
- The effect of work hours on depressive symptoms varies by ethnicity.

Abstract citation ID: ckae144.312
Using Machine Learning to identify the social determinants of the mid-life decline in mental health

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Background: The mid-life decline in mental well-being, depicted as a U-shaped pattern, is debated across disciplines. This study seeks to identify the social determinants of this decline and the overall contribution of social determinants to changes in mid-life mental health.

Methods: We use data from the 1970 British Cohort Study, from the ages 26, 34, and 42 (N = 6992, 51.5% female). Mental distress was measured using the 9-score Malaise Inventory. Mental distress increased from age 34 (M = 1.67) to 42 (M = 1.86; p < 0.001), with 17.8% declining by at least 1 SD on the inventory. We contrasted this group of decliners with those exhibiting stable mental health. We included socioeconomic and family factors, as well as physical health and health behaviours as potential determinants of mental health decline (at ages 26, 34, or at birth). We combine Random Forest and logistic regressions.

Results: The Random Forest's Variable Importance (VI; root Mean Squared Error (MSE)), revealed social class at birth (VI = 0.023), physical multimorbidity at age 26 (VI = 0.22), and income quintile at age 34 (VI = 0.022) as most important predictors. Regressions confirmed that low birth social class (OR = 1.51 [1.25-1.83]), high-income at age 34 (OR = 0.68 [0.53-0.88]), and physical multimorbidity at age 26 (OR = 1.25 [1.06-1.48]) predict mental health decline. For those with high income and social class, the predicted probability of mid-life mental health decline is 0.109 (CI = [0.08-0.139]), rising to 0.277 (CI = [0.227-0.324]) for high risk individuals. Social class does not predict changes in mental health between ages 26 - 34.

Interpretation: We show that various social determinants of health contribute to the observed decline in mental health during mid-life. Social class at birth, income, and physical health are the most relevant predictors; they reduce the risk of decline from up to 27% to 11%. The contribution of social class appears specific to mid-life, and it could help explain the U-shaped pattern.

Key messages:

- Social Factors Matter: Social class, income, and health predict mid-life mental decline.
- Mid-life Class Impact: Social class uniquely affects mental health decline in mid-life.

Abstract citation ID: ckae144.313
Exploring the association between low birthweight and adolescent mental health in the United Kingdom

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Low birthweight (LBW) is associated with a range of medical conditions including behavioural and emotional problems over the life course. This study aimed to explore the association between LBW and internalising and externalising mental health problems (MHP) in adolescents born in the United Kingdom between 2000 and 2002. Data were analysed for 10,485, 9,228, and 8,402 Millennium Cohort Study participants at ages 11, 14 and 17, respectively. Internalising and externalising MHP were measured using the Strengths and Difficulties Questionnaire (SDQ). LBW was subcategorised by size for gestational age and prematurity. Crude and adjusted associations between LBW subgroup and internalising and externalising MHP were estimated using binary logistic regression. Internalising MHP were more prevalent in LBW than NBW participants at ages 11 (14.2% vs 10.3%, p < 0.001), 14 (19.4% vs 13.7%, p < 0.001), and 17 (parent-report: 20.3% vs 14.8%, p < 0.001; self-report: 25.7% vs 20.1%, p < 0.001), respectively. Externalising MHP were more common amongst LBW participants at ages 11 (9.4% vs 7.3%, p = 0.02) and 14 (9.0% vs 6.6%, p = 0.01). Compared with NBW peers, the odds of internalising (males: aOR 2.18, 95% CI 1.21-3.73, p = 0.007; females: aOR 2.17, 95% CI 1.22-3.66, p = 0.005) and externalising MHP (males: aOR 2.01, 95% CI 1.05-3.60, p = 0.014; females: aOR 2.58, 95% CI 1.14-5.24, p = 0.016) were significantly increased in male and female premature small for gestational age (SGA) participants at age 11. Externalising MHP were significantly increased amongst premature SGA females aged 14 (aOR: 2.53, 95% CI 1.01-5.66, p = 0.016). Internalising MHP were significantly increased in premature SGA females at age 17 based on parent (aOR: 2.41, 95% CI 1.38-4.22, p = 0.005) and self-report (aOR: 1.95, 95% CI 1.14-3.31, p = 0.014). Amongst LBW individuals, premature SGA females have the greatest risk of internalising and externalising MHP during adolescence, thus identifying an important target group for intervention.

Key messages:

- This study provides evidence for the longitudinal association between low birth weight and mental health in adolescents born in the United Kingdom in the 21st century.
- Stratification of low birth weight individuals by size for gestational age and prematurity enabled the identification of a subgroup of adolescents for mental health promotion.

Abstract citation ID: ckae144.314
Factors of mental health patients' uptake in social prescribing: a mixed methods study in Portugal

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Successfully addressing mental health challenges demands comprehensive, community-driven solutions. Social prescribing (SP) emerges as an innovative approach, fostering integrated care by connecting healthcare patients to community resources. Research in this topic proved effects of SP in mental health and well-being promotion, but factors influencing patients' uptake remain underexplored. This study examined the factors associated with the uptake in patients with mental health needs in SP project in Portugal. This mixed methods study examined registries data of 403 patients referred to SP for mental health needs. A logistic regression was used to analyse sociodemographic characteristics and referral details associated with SP uptake. Semi-structured interviews were conducted with stakeholders to explore challenges and facilitators of users uptake. Most users were female (71.7%) and elder (average age 64.4 years, SD ± 20.0). Mental health needs included social isolation, loneliness, anxiety, and depression. 43.7% of referred patients had diagnosed mental illnesses and 55.8% attended at least one SP appointment. SP uptake was more likely among patients referred for social and financial support (OR 2.02; 95%CI 1.32-3.07; $p = 0.001$) and referred during the Covid-19 period (OR 1.64; 95%CI 1.08-2.49; $p = 0.020$). increased the probability of SP uptake. In contrast, SP uptake was less likely among those having diabetes (OR 0.49; 95%CI 0.28-0.88; $p = 0.016$). Health professionals' proactive engagement with patients facilitated uptake in SP, yet challenges arose from users' complex needs, low awareness, motivation, and acceptance of non-traditional responses such as community-based activities, along with mistrust of their effectiveness. SP has the potential to foster mental health and well-being through person-centred holistic care, yet challenges in uptake related to health and psychosocial factors must be addressed to optimize the SP positive impacts.

Key messages:

- Factors influencing the uptake of patients with mental health needs in SP initiative in Portugal involved need of social and financial support, pandemic period and health professionals' attitudes.
- Despite SP potential, for effective implementation it is key to address challenges, like complexity of patients' needs, awareness gaps and patient mistrust, to maximize its positive outcomes.

Abstract citation ID: ckae144.315
Trends in the association between alcohol use and generalized anxiety in Finnish adolescents

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Background: During the past two decades, alcohol use has decreased among adolescents, but on the contrary, anxiety symptoms have increased (at least among females). These diverging trends set interesting opportunities to examine whether the strength of the well-known correlation/co-occurrence between alcohol use and anxiety has also changed. This study aims to examine changes in the co-occurrence and associations between heavy episodic drinking (HED) and generalized anxiety among adolescents in Finland from 2013 to 2023.

Methods: Data from the Finnish School Health Promotion Study between 2013-2023 covered 874 110 participants aged 13-20. Generalized anxiety was measured using Generalized Anxiety Disorder Scale (GAD-7) (range 0-21), and heavy episodic drinking was measured as reported heavy drunkenness once a month or more often versus less than once a month. Yearly prevalence estimates of co-occurrence were analyzed for those with moderate to severe anxiety symptoms (>10) and monthly or more frequent HED. Associations between anxiety and HED were analyzed using logistic regression and time-varying effect modelling. Interactions between time and anxiety predicting HED were also considered.

Results: The moderate to severe anxiety symptoms increased from 10.7% to 20.9% and HED decreased from 18.0% to 11.8% between 2013 and 2023. The proportion of those with both HED and moderate to severe anxiety increased from 2.9% in 2013 to 3.6% in 2023. The association between anxiety symptoms and HED was stable during the study period, with odds ratios ranging between 1.06 and 1.07.

Conclusions: During the past decade, diverging trends in generalized anxiety symptoms and heavy episodic drinking have not changed the association between them. The proportion of adolescents with these co-occurring health concerns has increased in females. This calls for continuous efforts to strengthen the integration of mental health and substance use prevention and services.

Key messages:

- The association between generalized anxiety and heavy episodic drinking has not changed in adolescents in Finland between 2013 and 2023.
- The proportion of those with both moderate to severe anxiety symptoms and heavy episodic drinking has increased in females and remained stable in males during the past decade (2.9% - 3.6%).

5.N. Pitch presentations: Mother and child health

Abstract citation ID: ckae144.316
Birth registry-based cohort study of COVID-19 in pregnancy and adverse maternal outcomes in Georgia

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Georgia experienced an increase in maternal deaths (MD) during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic, which warrants further investigation. This study aimed to assess associations between timing of SARS-CoV-2 infection during pregnancy and MD, post-delivery intensive care unit (ICU) admission, and caesarean section (CS) delivery. We performed a national birth registry-based cohort study of pregnant women who had completed 22 weeks of gestation and delivered between February 28, 2020, and August 31, 2022. The data were linked to coronavirus disease 2019 (COVID-19) testing, vital, and immunization registries. Pregnant women were classified into three groups: confirmed SARS-CoV-2 infection from conception through 31 days before delivery; confirmed infection within 30 days before or at delivery; and women negative for SARS-CoV-2 infection or without any test results (reference group). Multivariable logistic regression was used to calculate the adjusted odds ratios (aORs) and 95% confidence intervals (CIs). Among 111,493 pregnant women, 16,751 had confirmed infection during pregnancy, and 7,332 were fully vaccinated against COVID-

19 before delivery. Compared to the reference group, those with confirmed infection within 30 days before or at delivery experienced increased odds of MD (aOR: 43.11, 95% CI, 21.99-84.55), post-delivery ICU admission (aOR: 5.20, 95% CI, 4.05-6.67), and CS delivery (aOR: 1.11, 95% CI, 1.03-1.20).

Key messages:

- Pregnant women in Georgia with confirmed SARS-CoV-2 infection within 30 days before or at delivery experienced a considerably higher risk of MD and post-delivery ICU admission.
- Most pregnant women were not vaccinated against COVID-19 and these findings should alert stakeholders that adherence to public health preventive measures needs to be improved.

Abstract citation ID: ckae144.317
Vitamin D status and its determinants in pregnant women form the Faroe Islands

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Background: In regions like the Faroe Islands, where sunlight may be insufficient for vitamin D synthesis, alternative sources such as diet and supplements become crucial. This study focuses on assessing the vitamin D status of pregnant women in the Faroe Islands during the early second trimester, considering the potential implications for maternal and fetal health.

Methods: A nationwide cross-sectional study (June 2020-April 2022) with 652 women providing blood samples and a questionnaire on demographics, vitamin D intake, and diet. Binary logistic regression assessed predictors of low 25-hydroxyvitamin D (25OHD) levels (<50nmol/L). Plasma 25OHD concentrations were analysed at the local National Hospital using the Alinity i 25-OH Vitamin D assay, employing chemiluminescence microparticle immunoassay (CMIA) for quantitative determination.

Results: The mean age was 30.7 (SD, 4.9) years; 86% were locally born; 45% resided in the capital area; 49% were overweight (BMI ≥25.0), with a mean pre-pregnancy BMI of 26.0. Most participants (95%) reported vitamin D intake (median of 10μg/day) and consumed vitamin D-rich foods 5.3 times per week. Low 25OHD concentrations were observed in 26% of participants, associated with residency, vitamin D intake, dietary habits, overweight, and sampling time. Maternal age, education, BMI, smoking, and traditional food showed no significant associations. During winter, vitamin D intake correlated more strongly with plasma 25OHD levels (Spearman's rho, winter: 0.4, $p < 0.001$; summer: 0.2, $p = 0.002$).

Conclusions: Our study's findings are essential for the health of Faroese pregnant women. 74% of them had sufficient 25OHD levels, which is encouraging. However, low levels were associated with residence, diet, overweight, and winter. This underscores the need for public health efforts to focus on monitoring vitamin D status, promoting vitamin D-rich foods, especially in winter, and monitoring dietary intake to protect maternal and fetal health.

Key messages:

- No previous data on vitamin D status in Faroese pregnant women.
- Seasonal variation is observed.

Abstract citation ID: ckae144.318
Understanding and monitoring vulnerability during pregnancy at population-level

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Background: Detecting and addressing vulnerability during pregnancy is important to optimize the first thousands days of children's lives and prevent health inequities. We aimed to gain insight into vulnerability during pregnancy and determine the best data to predict vulnerability.

Methods: In the Netherlands, two studies were done using nationwide routinely collected data and self-reported Public Health Monitor-data. The first study utilized all data to identify classes of vulnerability among 4172 pregnant women through Latent Class Analysis. The second study predicted multidimensional vulnerability at population-level using solely routinely collected data first, and step-by-step incorporating self-reported data. Random Forest (RF) analysis was employed, and model performance was assessed using Area Under the Curve (AUC) and F1-measure.

Results: Five vulnerability-classes were found: 'healthy and socioeconomically stable', 'high care utilization', 'socioeconomic vulnerability', 'psychosocial vulnerability', and 'multidimensional vulnerability'. Women in the 'multidimensional vulnerability'-class shared multiple risk factors across domains and lacked protective factors. They more often had adverse outcomes such as premature birth. In the next study, the initial RF-model achieved an AUC of 0.98 in distinguishing multidimensional vulnerability, with an F1-measure of 0.70. Adding self-reported data improved model performance. Strong predictors were self-reported health, socioeconomic characteristics and healthcare utilization.

Conclusions: Several vulnerability classes can be distinguished among pregnant women. The co-existence of risk factors and lack of protective factors leads to more adverse outcomes. Effective public health strategies should include both medical and social care and support. Next, it seems possible to predict multidimensional vulnerability using data that is readily available, providing a foundation for longitudinal monitoring and policy formulation.

Key messages:

- Considering the combination of both social risk and protective factors related to vulnerability during pregnancy is necessary.
- Routinely collected data could provide insight in the prevalence, geographical distribution and trends in multidimensional vulnerability during pregnancy at population-level.

Abstract citation ID: ckae144.319
Non-genetic risk factors for preeclampsia: an updated umbrella review

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Background: Preeclampsia (PE) is a common pregnancy disorder with complex mechanisms, and multiple risk factors may contribute to its development. Our objective is to update our literature search from our previous umbrella review, summarizing recent evidence on non-genetic risk factors associated with PE and assessing their credibility to identify those supported by robust epidemiological evidence.

Methods: We searched PubMed, EMBASE, Scopus, and ISI Web of Science up to June 2023. For each meta-analysis, we computed summary effect estimates, 95% confidence intervals, 95% prediction intervals, and assessed heterogeneity using I^2, while also examining small-study effects and excess significance bias. Quality assessment was conducted using the AMSTAR-2 tool.

Results: 89 meta-analyses were identified, providing data on 219 associations. Of these, 151 (69%) showed statistically significant findings at $P < 0.05$, with 52 (24%) remaining significant at $P < 10\text{-}6$. Large or very large heterogeneity was observed in 121 (55%) associations. Evidence for small-study effects and excess significance bias was found in 27 (12%) and 29 (13%) associations, respectively. Only 16 (7%) presented convincing evidence: Polycystic Ovary Syndrome (PCOS), PCOS (adjusted), Obstructive Sleep Apnea (OSA), Obesity (adjusted), Chronic Kidney Disease (CKD), Pregnancy Intrahepatic Cholestasis, SARS-CoV-2 infection (adjusted), Oocyte donation (OD) vs. In vitro fertilization (IVF), Fresh embryo transfer vs. spontaneous conception (SC) (singleton), Frozen embryo transfer vs. SC, OD vs. SC (singleton), IVF-OD vs. IVF-AO, IVF-OD fresh ET vs. IVF-AO fresh ET, NC frozen embryo transfer vs. AC frozen embryo transfer, Fetal sex (term), and Smoking.

Conclusions: Maternal health conditions like PCOS, along with reproductive interventions such as OD and IVF, as well as lifestyle factors like obesity and smoking, showed convincing associations with PE.

Key messages:

- Maternal health conditions, reproductive interventions, and lifestyle factors showed compelling evidence of association with preeclampsia.
- Our findings emphasize the multifactorial nature of preeclampsia and suggest potential avenues for further research and clinical intervention.

Abstract citation ID: ckae144.320
Associations between maternal origin, breastfeeding and health service use: a mediation analysis

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Background: The influence of maternal health utilization on breastfeeding practices is well established. However, research shows that immigrant women tend to face challenges in accessing maternal health services. Our aim was to examine any variation in maternal and child health service utilization between immigrant and native-born mothers as well as to examine potential mediation roles of service utilization on the association between maternal origin and breastfeeding practices.

Methods: We used a nationwide FinChildren (2020) survey on parents with infants focusing on Somali ($n = 29$), Arabic ($n = 81$) and Russian speaking ($n = 181$) parents and their infants. We compared them with native Finnish speakers ($n = 7508$). We used Process Macro to conduct mediation analysis.

Results: Almost 25%/ of Somali-/Arabic-speaking mothers reported not taking their infants to routine child health clinic visits. The proportion was 0.4% for native-born mothers and 1.6% for Russian-speaking mothers ($p < 0.001$). Around 18% of Somali-/Arabic-speaking mothers and only 0.6% of the native-born mothers reported not utilizing child health clinic services in the past year ($p < 0.001$). Somali-/Arabic speaking mothers were more likely to receive breastfeeding support from maternity clinics and native-born mothers from maternity hospital or peer support groups. Russian-speaking mothers were most satisfied with the received child healthcare services while Somali/Arabic-speaking mothers were least satisfied with these services ($p < 0.001$). Only participating in breastfeeding peer support groups had mediation effects on association between maternal origin and breastfeeding practices.

Conclusions: This study shows that immigrants mothers, particularly Somali/Arabic speaking mothers use less the maternal health services particularly routine health visits. It is essential to encourage them to use the services to be able to monitor the health of both mother and the child.

Key messages:

- Somali-/Arabic-speaking mothers are in a vulnerable position when it comes to utilizing healthcare services.
- This study call for more research exploring factors contributing to this.

Abstract citation ID: ckae144.321
Workers' experiences of pregnancy loss: qualitative insights from a mixed-methods study

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Background: Pregnancy loss affects approximately one in four pregnancies. The workplace is an important context to consider in pregnancy loss experiences as most women of reproductive age are in paid employment. Currently in the Republic of Ireland (ROI) there are no statutory leave entitlements if a pregnancy ends <24 weeks. Given the lack of research in this area internationally, we aimed to explore workplace experiences of early pregnancy loss.

Methods: In 2023, we conducted an online mixed-methods survey study (Mar-Apr), followed by qualitative interviews (Jun-Sept). People who experienced a pregnancy loss <24 weeks-whilst working and living in ROI in the preceding five years-were eligible to participate. The survey was distributed through professional/social networks and contained quantitative and qualitative questions-addressing pregnancy loss, experiences of workplace supports, and desired supports. Survey participants were asked to indicate their willingness to participate in a follow-up interview and were purposively sampled. The interview topic guide focused on specific aspects of workplace experiences which required further exploration following preliminary analysis of survey responses. Qualitative data were analysed in NVivo using reflexive thematic analysis.

Results: Most survey participants ($N = 913$) were female (74%), employed full-time (86%) and experienced a first-trimester miscarriage (75%). We conducted interviews with 13 people, across a range of demographics. Three initial themes were identified: (1) Personal experiences of pregnancy loss and dealing with emotional and physical impacts at work; (2) Challenges with the social side of pregnancy loss-disclosure and workplace interactions; (3) Workplace supports (4) Public policy and awareness.

Conclusions: Our analysis highlights the need for statutory leave, appropriate workplace policies and procedures, and education and training to better support workers who experience pregnancy loss.

Key messages:

- There is a gap between workers' needs and workplace supports regarding pregnancy loss <24 weeks gestation. Statutory leave, workplace policies and procedures, and education and training, are needed.
- There is a need to discuss pregnancy loss in workplaces and society, to raise awareness and reduce the stigma/taboo on the topic. Recognition from Government is crucial to promote this.

5.O. Scientific session: Exploring incidence and access to care for migrants and ethnic minorities with long-COVID

Abstract citation ID: ckae144.322

Organised by: University of Copenhagen (Denmark)
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The COVID-19 pandemic disproportionately affected migrants and ethnic minorities throughout Europe leading to the assumption that long-COVID would also affect these groups to a larger extent than the majority populations. So far, the few studies on long-covid including data on migrants and ethnic minorities suggest that they are also disproportionately impacted by long-covid, but conclusive findings are lacking in European countries and beyond. However, a large number of migrants and ethnic minorities suffering from long-COVID is a major concern for equity in health. Given that migrants and ethnic minorities are more likely to experience barriers to health services, it may also be the case in terms of their ability to access services for long-covid. This would have an unknown impact on long-COVID related. Further, long-COVID may have more far-reaching implications among these populations as they are often more socio-economically vulnerable, holding more temporary jobs with a greater job insecurity. Consequently, unattended long-COVID among migrants and ethnic minorities is likely to exacerbate existing social inequalities and inequalities in health. The aim of the workshop is therefore to discuss different novel perspectives on long-COVID among migrants and ethnic minorities to share their insights from recently published or upcoming studies with leading scientific researchers on the topic. We include both qualitative and quantitative studies focusing on both the incidence and risk factors and on experiences with diagnostic pathways in accessing health care services for long-COVID. We have invited four researchers representing four different European countries to obtain a diversity of perspectives with different country contexts. The format of the workshop is a scientific session. After an introduction by the chair, four researchers will present new studies and different perspectives on long-COVID among migrants and ethnic minorities. Each presenter will have 7 min for presentation and 3 minutes for questions. After the presenters there are 20 minutes for discussion headed by the co-chair.

Key messages:

- Document and discuss the effect of the pandemic regarding long-COVID on some of the most hard hit populations.
- Lessons learned that can inform future pandemic policy and structural efforts to reach the most vulnerable.

Abstract citation ID: ckae144.323

Experiences of access to care, diagnosis and rehabilitation among a multiethnic patient population with long-COVID in Denmark

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Background and aim: The aim of the study was to explore the experiences of accessing care, diagnosis, and rehabilitation among patients with long-COVID in a multiethnic population in Denmark.

Methods: Qualitative research using semi-structured interviews among a purposive sample of 18 people diagnosed with long-COVID, according to the NICE guideline, in the Capital Region of Denmark. Participants were sampled to secure variation in sex, age, ethnicity, migration status and education. Our interview guide was developed using the theoretical framework of candidacy. Interviews were transcribed verbatim, and member checked, and subsequently analyzed using thematic framework analysis and NVivo software.

Results: The analysis generated four categories: i) living with long-COVID, ii) access to care, iii) experiences in the healthcare system, and iv) experiences with rehabilitation. A main category was identified from these categories: limited knowledge of COVID resulting in uncertainty, which challenged nearly all aspects of access to diagnosis, care and rehabilitation among the informants. In particular, ethnic minorities experienced that their motives for seeking care were questioned or had the experience of differential treatment. In general, participants perceived to be themselves responsible of recovering, while also struggling with the mental, social and work-related consequences of their long-COVID.

Conclusions: Our study demonstrated how the emergence of a new viral disease with unknown long-term sequelae results in a group of patients who to a great extend carry the burden of getting better themselves. More research into relevant diagnosis, care and support for long-COVID patients is needed, especially among ethnic minorities.

Abstract citation ID: ckae144.324

Risk of long COVID and associated symptoms after acute SARS-COV-2 infection in ethnic minorities: a Danish nationwide cohort study

George Mkoma

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Background and aim: Ethnic minorities living in high-income countries have been disproportionately affected by COVID-19 in terms of infection rates, hospitalisations, and deaths; however, less is known about long COVID in these populations. Our aim was to examine the risk of long COVID and associated symptoms among ethnic minorities.

Methods: We used Danish nationwide register-based cohort data on individuals diagnosed with COVID-19 aged ≥18 years (n = 2 334 271) between January 2020 and August 2022. We calculated the risk of long COVID diagnosis and long COVID symptoms among ethnic minorities compared with native Danes using multivariable Cox proportional hazard regression and logistic regression, respectively.

Results: Of the diagnosed COVID-19 cases, 1 973 998 (84.6%) were native Danes and 360 273 (15.4%) were ethnic minorities. After adjustment for age, sex, civil status, education, family income, and Charlson comorbidity index, ethnic minorities from North Africa (adjusted hazard ratio [aHR] 1.41, 95% CI [1.12,1.79]), Middle East (aHR 1.38, 95% CI [1.24,1.55]), Eastern Europe (aHR 1.35, 95% CI [1.22,1.49]), and Asia (aHR 1.23, 95% CI [1.09,1.40]), had significantly greater risk of long COVID diagnosis than native Danes. In the analysis by largest countries of origin, the greater risks of long COVID diagnosis were found in Iraqis (aHR 1.56, 95% CI [1.30,1.88]), Turks (aHR 1.42, 95% CI [1.24,1.63]), and Somalis (aHR 1.42, 95% CI [1.07,1.91]). A significant factor associated with an increased risk of long COVID diagnosis was COVID-19 hospitalisation.

Conclusions: Migrants and ethnic minorities had higher risk of long-COVID compared to native Danes.

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Differences in incidence, nature of symptoms, and duration of long COVID among hospitalised migrant and non-migrant patients in the Netherland: a retrospective cohort study

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Background and aim: Comprehensive data on long-COVID across ethnic and migrant groups are lacking. We investigated incidence, nature of symptoms, clinical predictors, and duration of long-COVID among COVID-19 hospitalised patients in the Netherlands by migration background.

Methods: We used COVID-19 admissions and follow up data (January 2021-July 2022) from Amsterdam University Medical Centers. We calculated long-COVID incidence proportions by migration background and assessed for clinical predictors via robust Poisson regressions. We then examined associations between migration background and long COVID using robust Poisson regressions and adjusted for derived clinical predictors, and other biologically relevant factors.

Results: 1886 patients were included. 483 patients had long-COVID (26%, 95% CI 24-28%) at 12 weeks post-discharge. Symptoms like dizziness, joint pain, and headache varied by migration background. Clinical predictors of long-COVID were female sex, hospital admission duration, intensive care unit admission, and receiving oxygen, or corticosteroid therapy. Long-COVID risk was higher among patients with migration background than Dutch origin patients after adjustments for derived clinical predictors, age, smoking, vaccination status, comorbidities and remdesivir treatment.

Conclusions: There are significant differences in occurrence, nature of symptoms, and duration of long-COVID by migration background. Studies assessing functional limitations and access to post-COVID healthcare are needed to help plan for appropriate and accessible healthcare interventions.

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Risk of long COVID in migrants and the contribution of vaccinations, disease severity, social inequalities and preexisting health: A nationwide register study in Sweden

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Background and aim: A number of studies have found higher COVID-19 infection rates, hospitalizations and deaths in migrants and ethnic minorities throughout the Corona Pandemic. Some recent evidence also suggests higher risk of long COVID in migrants although less is known about the risk factors for long COVID in this population. The objective of our study is to examine the risk of long COVID in migrants and to examine whether preexisting health conditions, disease severity, social inequalities and vaccinations contribute to the association.

Methods: We used linked Swedish administrative registers to estimate the risk of a long COVID diagnosis in the population that had a confirmed COVID-19 infection. Poisson regressions were used to calculate incidence rate ratios between the Swedish born and migrant groups. Adjustments for preexisting health conditions, disease severity, vaccinations and social inequalities were separately introduced.

Results: Higher risks of long COVID were found among migrants from Africa, Asia, Eastern Europe, Finland, Middle-East and South America. While the contribution of vaccinations and social inequalities were modest, we found that disease severity (i.e. whether the person was hospitalized or treated in an intensive care unit) primarily contributed to the higher risk of long COVID found in migrants.

Conclusions: The greater exposure and impact of the COVID-19 virus among migrants during the pandemic also affected the longer-term consequences of infection in this at-risk population.

5.P. Oral presentations: Understanding environmental, social and individual factors

Abstract citation ID: ckae144.327
Capturing the health and well-being impact of climate change: a health impact assessment in Wales

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Climate change is one of the biggest threats to global health in the 21st century and is likely to impact on health through a range of factors (societal, economic or environmental). The need to take action on climate and nature emergencies in order to protect population health and well-being and prevent negative impacts are becoming more urgent. Public Health Wales carried out a comprehensive mixed-method Health Impact Assessment (HIA) of climate change in Wales. HIA is a systematic process which considers the impact of a policy on the health and well-being of a population. It appraised the potential impacts of climate change on health and inequalities in Wales. This involved participatory workshops, engagement with stakeholders, statistical data, systematic literature reviews and case studies. The HIA findings indicate significant potential impacts across the determinants of health and mental well-being. For example, air quality, flooding, economic productivity, working conditions, access to services and community resilience. Impacts were identified across population groups, settings, and areas including urban and rural contexts, outdoor workers, children and young people, older people, schools, hospitals and workplaces. These findings have been beneficial to inform decision-makers to prepare for climate change plans and policies using a preventative evidence-informed approach. The work has demonstrated the value of HIA for significant, complex policies by mobilising a range of evidence through a transparent process, resulting in government and organizational action and transferrable learning for others.

Key messages:

- HIA is a beneficial tool to identify at a granular level the health impacts of climate change.
- The HIA has been used by the government of Wales and organisations to respond to and plan for climate change.

Abstract citation ID: ckae144.328
Cohort retention in a pandemic response study: Lessons from the SIREN study

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Background: Cohort studies represent an important research-tool, yet participant retention is difficult. SIREN followed a cohort of healthcare workers across 135 NHS sites in the UK during a pandemic. We designed an evolving retention programme, underpinned by our Participant Involvement Panel (PIP). We aimed to evaluate cohort retention over time and identify learnings.

Methods: Mixed method evaluation of our evolving retention programme in the 12 and 24-month cohort. We described cohort retention by demographics and site, using odds ratios from logistic regression. Withdrawal reasons were collected by survey. We collected participant feedback via cross-sectional survey using a behavioural science approach. We conducted focus groups with research teams and conducted thematic analysis.

Results: 37,275 (84.7%) participants at 135 sites completed 12-months of follow-up. 12,635 (85.5%) participants at 87 sites completed 24-months. Retention increased with age (24-months: >65 vs < 25 years OR $= 2.92$; 95%CI: 1.78-4.88; $p < 0.001$) and was highest in the Asian and Black ethnic groups (24-months OR $= 1.78$; 95%CI: 1.42-2.25; $p < 0.001$, and OR $= 2.12$; 95%CI: 1.41-3.35; $p < 0.001$, respectively, Ref=white). SIREN scored highly in participant feedback. Lessons for future studies include the need to monitor changing participant motivation; using inclusive and comprehensive communication; acknowledging the contributions of participants and investing in the skillset of research teams.

Conclusions: Despite challenges to running a large multicentre cohort study in an evolving pandemic, retention in SIREN has remained very high. Some factors impacting retention were outside of study control, including the altruistic motivation of participants. Participant feedback was positive, suggesting SIREN methodology will provide useful learning for future retention programmes. Site feedback provided learning for future multicentre research studies, offering insights into key facilitators and common challenges.

Key messages:

- Cohort retention is difficult. Mixed methods evaluation shows SIREN achieved high retention while following a cohort of healthcare workers across 135 NHS sites in four UK nations during a pandemic.
- Lessons learned include the need to monitor changing participant motivation; using inclusive communication; acknowledging participants contributions and investing in the research team skillset.

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Assessing the contribution of smoking to the disease burden in Belgium, 2013-2020

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Tobacco use remains a challenge given its substantial role in contributing to disability and premature death globally. Understanding its impact on population health, as an attributable burden, can help monitor progress on the effectiveness of tobacco policies. In this study, we used the Comparative Risk Assessment (CRA) method to estimate the share of the disease burden due to smoking in Belgium from 2013 to 2020. Population attributable fractions (PAF) were computed for risk-outcome pairs by age, sex, and region in Belgium for 2013-2020. Exposure estimates were extracted from a time series of the Belgian Health Interview Survey. Dose-response curves or relative risk estimates were drawn from the Global Burden of Disease Study 2019. In Belgium, smoking-related deaths decreased from 12,851 deaths (PAF=11%) in 2013 to 9,413 deaths (PAF=7%) in 2020. Deaths among men (2013: PAF=18%, $n = 9859$; 2020: PAF=11%, $n = 7041$) were three times higher than among women (2013: PAF=5%, $n = 2991$; 2020: PAF=3%, $n = 2341$).

Over time, larynx cancer (2013: PAF=72%, n = 185; 2020: PAF=63%, n = 125), trachea, bronchus, and lung cancer (2013: PAF=60%, n = 4,899; 2020: PAF=60%, n = 3,682), other pharyngeal and oropharyngeal cancers (2013: PAF=47%, n = 118; 2020: PAF=40%, n = 100), mouth cancer (2013: PAF=37%, n = 172; 2020: PAF=30%, n = 122), and aortic aneurysm (2013: PAF=40%, n = 268; 2020: PAF=33%, n = 209) emerged as the primary contributors to smoking-related deaths in Belgium. While the ranking of contributing causes stayed mostly consistent in both genders over the years, cervical cancer (2013: PAF=23%, n = 53; 2020: PAF=21%, n = 64) ranked fourth instead of mouth cancer (2013: PAF=22%, n = 28; 2020: PAF=14%, n = 15) among women. Despite decreasing trends over time, smoking remains a significant contributor to cancer deaths in Belgium, particularly among men. Results from this study can help inform the development of strategies for smoking prevention and reinforce the need for continued efforts in prevention initiatives.

Key messages:

- Cancers are the primary cause of smoking-related deaths in Belgium, with a decline in the death toll over time.
- Understanding the role of smoking on population health as an attributable burden can improve health monitoring.

Abstract citation ID: ckae144.330
Metabolic syndrome prevalence has increased in Finland from 2000 to 2023

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Obesity presents a metabolic burden that leads to increased non-communicable disease (NCD) morbidity with metabolic syndrome (MS) as a pathway. The aim was to examine the trends in the obesity and MS prevalences. The study included health examination survey data collected in 2000 and 2023 (n = 7 258, 20-64 years). Examination measurements, blood samples, questionnaires, and register data were collected. MS criteria (ATPIII/AHA) included at least 3 of the following: increased waist circumference, elevated fasting glucose or medication, elevated triglyceride or medication, elevated blood pressure (BP) or medication, and decreased HDL-cholesterol or medication. Participants were divided according to BMI (normal weight 18.5-24.9 kg/m2, overweight 25.0-29.9 kg/m2, obesity 30.0-34.9 kg/m2, severe obesity = >35.0 kg/m2). Weighted prevalence and 95% confidence intervals (CIs) of MS and obesity were calculated considering sampling design and non-response. Prevalences of normal weight decreased from 2000 (men 32%, 95% CI 30-35; women 45%, 95% CI 43-47) to 2023 (men 26%, 95% CI 23-28; women 34%, 95% CI 32-37) and obesity increased from 2020 (men 17%, 95% CI 15-18; women 15%, 95% CI 14-17) to 2023 (men 20%, 95% CI 18-22; women 18%, 95% CI 16-20) as did severe obesity (in 2000: men 4%, 95% CI 3-5; 6%, 95% CI 5-7 - in 2023 men10%, 95% CI 8-12; women 13%; 95% CI 11-14). The prevalence of MS increased from 37% (95% CI 34-39) to 45% (95% CI 43-48) in men and 30% (95% CI 28-32) to 37% (95% CI 34-39) in women. The prevalence of MS with obesity varied from 2000 to 2023 from 73-77% in men and 69-61% in women and with severe obesity from 88-91% in men and 79-76% in women. From 2000 to 2023, no MS components remained stable with normal weight (men 29-25%, women 44%) and obesity (both sexes <1%). The prevalence of MS has increased in the last 20 years. Obesity is a major risk factor for MS that increases the future burden MS and, consequently, of NCD on societies.

Key messages:

- Metabolic syndrome has increased in Finland from 2000 to 2023. At the same time, the prevalence of those with normal weight has decreased and severe obesity increased.
- The global obesity pandemic will further increase the burden of NCD's in the future. This is already visible with increasing metabolic syndrome prevalence.

Abstract citation ID: ckae144.331
Impact of temperature and humidity on airway obstruction in a cohort of elderly women

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Background: Temperature and relative humidity (RH) impact human health. However, little is known about the combined association between temperature and RH on respiratory health in the elderly. In this study, we evaluated the interactive associations of temperature and RH on airway obstruction in elderly German women.

Methods: Using data from the second follow-up (2007-2010) of the German SALIA cohort study, we assessed the short-term (Lag0-8) combined association between maximum and minimum temperature (Tmax, Tmin) and RH on airway obstruction. Airway obstruction was defined as the ratio of first second of forced expiration (FEV1) / forced vital capacity (FVC) < 0.70. Multivariable logistic regression with a distributed lag non-linear model (DLNM) was constructed for the interaction between temperature and RH and adjusted for a single pollutant, location, socioeconomic status and smoking status.

Results: 735 elderly women with an average (±SD) age of 73.46 (± 3.09) years were included. Around 16.73% of them had airway obstruction. For non-linear antagonistic Tmax and RH interaction models, we found a U-shaped relationship from Lag 0-8, with an immediate adverse association from Lag0-1 and a significant delayed adverse association from Lag7-8. For non-linear antagonistic Tmin and RH interaction models, the relationship was U-shaped and showed an immediate adverse association from Lag0-1, while there was also a significant delayed association from Lag6-8.

Conclusions: Climate change increases the likelihood of exposure to adverse temperatures and weather conditions. Vulnerable populations like the elderly are more susceptible to the adverse associations of climate change. In this epidemiological study, we found that exposure to Tmax/Tmin and RH had immediate and delayed adverse associations by increasing respiratory obstruction in elderly women. Increasing public awareness of the danger of interactions between non-optimum temperature and RH on respiratory health is crucial.

Key messages:

- Elderly women's respiratory health is impacted by temperature and humidity interactions, requiring awareness and proactive measures.
- Climate change heightens risk for vulnerable groups, emphasising the need to address environmental impacts on health.

5.Q. Oral presentations: Capacity building and career development

Abstract citation ID: ckae144.332

Creating good career prospects for professionals in the infectious disease control in the Netherlands

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Background: A strong public health system in the Netherlands requires sufficient and motivated professionals. In preparation for new large outbreaks and pandemics, a strong workforce is essential. Providing good career prospects is crucial to attract, engage and retain professionals at the 25 Dutch Regional Public Health Services (RPHSs). However, it is unclear what opportunities and barriers professionals experience concerning their career prospects in the infectious disease control.

Methods: We aimed to identify these barriers and opportunities using focus groups with infectious disease medical doctors, nurses and assistants. Tangible solutions to address barriers and strengthen facilitating factors were gathered using in-depth interviews with key figures within the board, management, training coordinators and human resources of the RPHSs.

Results: Forty-six professionals participated in six focus groups. Barriers and opportunities for good career prospects included whether or not professionals experienced: personal development opportunities, achievement appreciation, and opportunities for (financial) growth. Interviews with key figures identified solutions to career prospect barriers, which were grouped into five themes: 1) Engage in conversations about career prospects, 2) Provide sufficient achievement appreciation, 3) Ensure connectivity between RPHSs, 4) Develop a perspective on career prospects, 5) Improve the image of RPHSs.

Recommendations: A guideline was developed for RPHSs to improve the career prospects of infectious disease control professionals including 17 recommendations. Implementation of these recommendations will contribute to the attractiveness of working in the public healthcare.

Key messages:

- Addressing barriers and encouraging opportunities for good career prospects is essential to captivate, engage and retain public health professionals for pandemic preparedness.
- Career prospects can be improved by developing and communicating a perspective on career prospects, increasing appreciation of achievements, and improving the image of working in public health.

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Wellbeing, career satisfaction, and educational requirements in healthcare assistants in Ireland

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Background: The long-term residential care (LTRC) sector in Ireland relies heavily on Health Care Assistants and Carers (HCAs). This workforce has become increasingly diverse in recent years, often relying on non-national temporary workers with varying levels of education. In 2022, of 22,495 HCAs and 5,289 Healthcare Support Assistants working in 563 nursing homes caring for some 30,000 residents, 22% were non-national. Their plight became evident during COVID-19 which had profound consequences in the LTRC sector.

Objectives: In this study, we investigate the recruitment, training, employment terms and conditions of HCAs in Ireland, as well as their general well-being and career satisfaction.

Methods: A cross-sectional study of members of ‘Care Assistance Ireland’, for which ethics approval was granted for an estimated sample of 1,052, is conducted. Validated instruments used are: the Maastricht Instrument for Sustainable Employability (MAISE); Utrecht Work Engagement Scale (UWES); General Wellbeing Schedule (GWBS) and Minnesota Career Satisfaction Survey (MCSS).

Results: The internal consistency reliability (Cronbach’s alpha) of GWBS and MCSS instruments were high. The response rate in the selected sample is estimated circa 60%, the majority being female and qualified. General well-being status will be investigated once all responses are submitted. Spearman correlation is predicated to show moderate to strong positive correlations (0.2-0.9) for all GWBS and MCSS questionnaires questions. While MAISE and UWES are still under investigation. It is predicted that there is variability in the requirements for, and terms and conditions of, employment among HCAs in Ireland, while job security remains a concern.

Conclusions: These findings reinforce the importance of ensuring standards for recruitment, training, job security and well-being for the LRTC workforce. The lack of educational requirements for HCAs in some settings is a critical consideration.

Key messages:

- Findings will impel a more agreeable, consistent entry award in the healthcare system.
- It profiles career needs of HCAs outlining the long-term shortfalls preventable with health policy enactments.

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Methods for projecting health workforce planning in Ireland: a collaborative approach

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Background: Health workforce planning (HWFP) is the process of analysing, forecasting, and planning workforce supply and demand, assessing gaps, and determining target workforce to ensure that health systems are prepared for future demand. HWFP elicits recommendations that are ideally utilised by the health system to support medical workforce over a defined time.

Methods: The objective of this project is to inform intake for medical and surgical specialties in Ireland to reach the necessary consultant workforce by 2038. A literature search was conducted to help inform the methodology for this project. The most common approach was a needs-based model, and additional reviews discussed the integration of medical engagement into the modelling approach.

Results: This project will employ a collaborative approach, combining mathematical modelling and a combination of quantitative and qualitative inputs, including the following phases: 1. The research phase will estimate baseline supply and demand data across medical and surgical specialties in Ireland using statistical models; 2. The presentation phase will include input from clinical leads to allow for more accurate assumptions in the baseline of each model; 3. Review of projections will include feedback from the clinical leads to help clarify and improve the initial model; 4. Presentation of the revised projection will include further collaboration with clinical leads to finalise the model.

Conclusions: The robust methodology for this HWFP project will ideally inform medical and surgical specialities in Ireland through 2038. Specific and extensive predictions of health workforce supply and demand will enhance strategic preparation, which is a key priority for the Health Service Executive in Ireland.

Key messages:
- A collaborative approach to HWFP is essential for health service preparation and improvement.
- The project will be finalised by the end of 2024, and the methodology for conducting similar HWFP projects can be adapted by other EU states.

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Decision support systems as supporters of clinical work: perspectives from physicians in Finland

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Background: The digitalisation of healthcare has changed physicians' clinical and administrative work. For example, decision support systems (DSSs) are expected to support physicians' daily work. The present study examined physicians' experiences of DSSs' support for their work analysed by age, gender, employment sector and leadership position.

Methods: Altogether 4630 physicians (64% women) from Finland responded to the online survey. Logistic regression analyses were conducted to examine the associations of age, gender, employment sector, and leadership position with experiences of DSSs' support for their work.

Results: Of the respondents, 21.3 % agreed that DSSs supported their work, whereas 43.5 % were neutral and 35.2 % disagreed with the statement. Age (Wald's $F = 15.5$, $p = 0.001$), employment sector (Wald's $F = 84.6$, $p < 0.001$), and leadership position (Wald's $F = 16.3$, $p < 0.001$) were significantly associated with the assesment, whereas gender was not. Those aged between 45 and 54 (OR 0.65, 95% CI 0.51-0.81) and between 55 and 64 (OR 0.74, 95% CI 0.59-0.93) had lower odds for agreeing compared to those aged 35 or under. Compared to physicians in hospitals, primary care physicians had 2.18 times (95%CI=1.84-2.59) greater odds for agreeing that DSSs support their work. Those who were in leadership positions had 1.50 times (95%CI=1.23-1.82) greater odds for agreeing compared to those not in leadership positions.

Conclusions: Finnish physicians did not experience DSSs supporting their work. Especially older physicians, hospital physicians and those not in leadership positions gave negative assessments. DSSs should be better integrated to physician workflow, it is also possible that usability problems of DSSs such as alert fatigue affected user experiences. More attention should be paid to developing DSSs in a way that they support physicians work better.

Key messages:
- Finnish physicians did not experience that decision support systems would actually support their work.
- Especially older physicians, hospital physicians and those not in leadership positions did not agree that decision support systems would support their work.

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Healthcare professionals and students' knowledge on termination of pregnancy: A systematic review

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Background: Providing safe termination of pregnancy (TOP) according to each country's legalisation is an important public health matter internationally. Healthcare professionals (HCPs) and healthcare students have key roles and need to be aware of legislation and clinical practice guidelines on TOP in their country to facilitate safe and effective care. The main aim of this systematic review was to investigate the level of knowledge on TOP legislation among HCPs and healthcare students. The second objective was to assess the knowledge of TOP methods, procedures and/or potential associated complications.

Methods: This is a systematic review of qualitative and quantitative peer-reviewed studies published in English or Portuguese until July 2020. Databases included in the search were EBSCO, PubMed, Embase and Scopus. The quality appraisal was done using the CASP Critical Appraisal tools.

Results: A total of 31 studies were included, published between 2002 and 2020 and from several regions around the globe. No studies were carried out in Europe or the United Kingdom. A total of 22 studies included healthcare professionals and nine studies included students. Overall, all the studies showed poor knowledge of TOP legislation and TOP methods, procedures and complications. Knowledge of special circumstances established in the law where TOP might be legal was also very limited. In studies focussing on medical (MA) and surgical (SA) TOP, knowledge of MA was lower than of SA. Studies reported that practitioners and students have limited training in TOP. Overall, education/training and experience with TOP seem to be the main factors associated with increased levels of knowledge. Similar results were found for student's knowledge.

Conclusions: This study highlighted the importance of involving and promoting the participation of HCPs and students in the provision of TOP services. A clear need and desire for staff education and training on TOP was shown.

Key messages:
- TOP training is limited and broadly excluded from medical and healthcare education globally. Students and staff have recognised this issue and the critical impact it has on TOP care provided.
- Adequate knowledge and training in TOP ensures service sustainability and preparation of current and future healthcare practitioners to provide high-quality, respectful and compassionate care.

6.A. Round table: Building a Public Health Innovation Ecosystem in the WHO European Region

Abstract citation ID: ckae144.337

Organised by: WHO/Europe, EUPHA
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Background: In the WHO European region, challenges persist in bridging the gap between innovative health solutions and their widespread implementation at a population scale. Despite advancements in AI, digital systems, precision medicine, genomics, and social innovations, these potential solutions often go underutilized. Immediate action is necessary to address the multifaceted issues faced by health systems, such as aging populations, noncommunicable diseases, antimicrobial resistance, and climate change impacts on health. To effectively tackle these challenges, it is essential to develop and implement innovations that respond to critical health issues in a contextual manner. Establishing an innovation ecosystem that fosters collaboration, strategic partnerships, and effective scaling of innovative solutions is crucial. Robust policy frameworks and governance mechanisms are needed to engage with the private sector and other nontraditional public health partners to drive equitable and value-driven innovations in public health.

Rationale: The workshop at the 17th European Public Health Conference 2024 aims to explore the role of public-private collaborations in driving innovative solutions for public health. By examining synergies between sectors, the workshop seeks to accelerate innovation, improve preventive services, and enhance health delivery to address pressing public health challenges. Leveraging the private sector's expertise and resources is crucial in addressing complex health issues and improving public health outcomes. The workshop will provide a platform to strategize on utilizing these collaborations for sustainable innovation in public health.

Overall Objective: Foster a deeper understanding of the benefits and challenges of public-private collaborations in advancing public health innovation.

Specific Objectives:

- Facilitate knowledge exchange on successful collaboration models between the private sector and public health entities.
- Identify key strategies to utilize private sector resources for innovative public health solutions.

Outcomes:

- Inspire the formation of new partnerships to drive innovation in public health.
- Develop actionable insights to enhance collaboration between the private sector and public health stakeholders for sustainable innovation.

Workshop Structure: The workshop will begin with a Scene-setting presentation of Dr Gauden Galea, Strategic Advisor to the Regional Director, WHO Europe, on WHO Europe's approach to leveraging innovation for public health outcomes (10 mins). Panelists will then discuss concrete examples of public-private collaboration leading to improvements in public health outcomes (40 mins). Key success factors for meaningful partnerships with the private sector will be explored, emphasizing policy considerations and the importance of behavioral and cultural insights in innovation. Interactive Q&A session with audience will close the meeting (10 mins).

Key messages:

- Establishing an innovation ecosystem fosters partnerships that drive equitable and sustainable solutions in public health.
- Public-private collaborations accelerate innovation for public health, vital for addressing complex challenges effectively.

Speakers/Panelists:

Götz Gottschalk,
YouTube, Berlin, Germany

Götz Gottschalk (Head of Health, YouTube Germany) will discuss the role of technology, particularly YouTube, in disseminating accurate health information to the public. He will also share insights on how digital platforms can be utilized to promote public health initiatives, address misinformation, and engage with diverse audiences effectively. His talk will also focus on the importance of collaboration between the public and private sectors in leveraging technology for public health outcomes, emphasizing the need for responsible and accurate health communication in the digital age.

Phillippe Menu
SOPHiA Genetics, Rolle, Switzerland

Phillippe Menu (Chief Medical Officer and Chief Product Officer, SOPHiA Genetics, Switzerland) will discuss how data-driven approaches, artificial intelligence, and genomic insights can revolutionize diagnostics, treatment decisions, and personalized medicine. His talk will highlight the potential of integrating advanced technologies into public health to improve patient outcomes, enhance clinical decision-making, and drive innovation in the field of precision medicine.

Els Torreele
Institute for Innovation and Public Purpose, University College London, London, UK

Els Torreele (Policy Associate, UCL Institute for Innovation and Public Purpose) will discuss policy frameworks, governance structures, and strategies to promote equitable access to public health innovations, particularly in low- and middle-income countries. Her talk will shed light on the intersection of innovation, public policy, and global health, emphasizing the importance of addressing systemic barriers to ensure that innovative healthcare solutions reach those who need them the most.

Andrew Nerlinger
Global Security Fund, Geneva, Switzerland

Andrew Nerlinger (Executive Director, Global Security Fund) will discuss pandemic preparedness, biosecurity measures, and the role of non-profit organizations in addressing global health threats. His talk will explore how innovative approaches, partnerships, and funding mechanisms can strengthen global health security, mitigate risks, and build resilience in the face of emerging health crises.

Susan Michie
Centre for Behaviour Change, University College London, London, UK

Susan Michie (Professor of Health Psychology and Director of the UCL Centre for Behaviour Change) will discuss evidence-based strategies for promoting behavior change, improving health outcomes, and addressing public health challenges through behavioural and cultural insights. Her talk is expected to highlight the importance of understanding human behavior, motivations, and decision-making processes in designing effective health interventions and shaping public health policies.

6.B. Oral presentations: Digital health in practice

Abstract citation ID: ckae144.338
Envisioning telemedicine in the EU health systems: Insights from policy experts and cancer patients

Tugce Schmitt

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Background: Conducted as part of WP4 (Sustainability) of the eCAN Joint Action, the aim of this foresight exercise was to understand how telemedicine services in EU-Member States (MS) could be implemented in a patient-centric way to tackle cancer.
Methods: Based on a literature review, we identified factors that impact on the implementation of telemedicine in EU MS; these were integrated to an online survey. Health policy experts were invited to rank 34 factors using a 7-point Likert scale to better understand the barriers and facilitators of telemedicine services at the health system level, whilst patient associations ranked 28 other factors to capture end-users' view. Next, survey respondents were invited to a foresight workshop to collect qualitative data and gain a forward-looking perspective.
Results: 20 health policy experts working in digital health across 14 EU MS, predominantly from Ministries of Health, and 8 cancer patient associations from 5 EU MS responded to the surveys. For a sustainable integration of telemedicine services in the EU, policy experts recommend developing a clear legal framework, embracing a hybrid healthcare model, and enhancing digital literacy. They stress the importance of telemedicine as a complementary tool, advocating for solid IT infrastructure, privacy safeguards, and the integration of health equity. Similarly, cancer patients emphasise the importance of being able to choose between telemedicine and in-person visits, focusing on personal interaction. They advocate for the involvement of patients in the design and testing of telemedicine services, ensuring solutions meet their preferences.
Conclusions: Policy experts and patients are in favour of hybrid models for cancer care. Recommended public health actions include: i) develop legal frameworks to complement in-person care with telemedicine; ii) boost digital literacy and IT infrastructure, ensuring privacy and health equity; and iii) involve patients in design for tailored services.
Key messages:

- Both the EU Member States and cancer patients view telemedicine as a useful and complementary tool, however, not as a replacement for in-person healthcare services.
- Both the EU Member States and cancer patients champion telemedicine with a focus on equity, privacy, digital literacy and a hybrid model of care that respects patient preferences for cancer treatment.

Abstract citation ID: ckae144.339
Machine-learning based prediction for high health care utilizers using a multi-institution registry

Joshua Kuan Tan

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Background: Rising healthcare costs worldwide have spurred interest in using machine learning to pinpoint major healthcare utilizers for population health efforts. Previous studies have focused on individuals who impose the highest financial burden, such as targeting high-need high-cost utilizers, a small group with limited potential for cost reduction. Therefore, we developed models to predict future healthcare utilization across various thresholds.
Methods: We leveraged data from a multi-institutional diabetes database to develop binary classification models capable of predicting healthcare utilization in the following year. The models predicted six different outcomes: patients with an annual total length of stay of ≥ 7, ≥ 14, and ≥ 30 days, and emergency department (ED) attendance of ≥ 3, ≥ 5, and ≥ 10 visits. To mitigate class imbalance, we applied random and synthetic minority oversampling techniques and compared against models trained without oversampling. Models were trained with 2019 data and tested on unseen data from 2020 and 2021.
Results: Models trained with random oversampling, including logistic regression, multivariate adaptive regression splines, boosted trees, and multilayer perceptron, consistently demonstrated high AUC (>0.80) and sensitivity (>0.60) across both training-validation and test datasets. Addressing class imbalance was found to be crucial, as models without oversampling displayed satisfactory AUC (>0.80) but significantly lower sensitivity (<0.10). Key predictors identified included age, number of ED visits in the present year, chronic kidney disease stage, in-patient bed days in the present year, and mean HbA1c levels.
Conclusions: Our machine learning models successfully predict high service level utilization with strong performance, offering valuable tools for policymakers and health planners to develop targeted health initiatives based on patient utilization patterns.
Key messages:

- Machine learning models can be leveraged to predict future healthcare utilization and facilitate interventional program development.
- Annual total length of stay and total emergency department visits are useful service level indicators.

Abstract citation ID: ckae144.340
A CDSS based Integrated Pathway for Influenza Vaccination Across Primary and Secondary Care

Maria Lucia Specchia

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Background: In Italy, influenza vaccination coverage in people ≥ 65 years is unsatisfactory (56.7%), underlining the need to improve current vaccination strategies. The objectives of this study have been: to define a novel pathway to increase influenza vaccination adherence among ≥ 65 years population in the Lazio region; to provide a predictive estimate of the epidemiological and economic pathway's potential impact.
Methods: A multidisciplinary working group (WG) featuring cross-sectoral expertise was created and WG periodic meetings were held to define the patient journey and its flow-chart representation. The pathway's potential impact was assessed through epidemiological and economic indicators and scenario analyses.

Results: An integrated pathway across primary and secondary care was defined, based on the active patient in-Hospital recruitment and vaccination and enhanced by a Clinical Decision Support System relying on a digital algorithm to identify eligible patients. Assuming an increase of influenza vaccination coverage from the current rate of 60% (scenario 1) to 65% (scenario 2) in ≥ 65 years population in the Lazio region thanks to the pathway implementation, an increase of 8% in avoided influenza cases, influenza- or pneumonia-related hospitalizations and influenza-related outpatient visits was estimated with a relative increase in savings for hospitalizations and outpatients visits of up 2,367,310 euros. Setting the vaccination coverage at 70% (scenario 3), an increase of 16% in avoided influenza cases, hospitalizations and outpatient visits was estimated with a relative increase in savings for hospitalizations and outpatients' visits of up to 4,833,259 euros.

Conclusions: Alongside offering a predictive estimate of the relevant pathway's potential impact, both epidemiological and economic, this project, with its robust methodology, may serve as a scalable and transferable model for enhancing vaccination coverage at national and international level.

Key messages:

- The proposed pathway, offering the option of receiving flu vaccination within the Hospital, supports the paradigm shift towards primary prevention pathways in secondary care settings.
- Another relevant aspect of the integrated pathway is the adoption of an Artificial Intelligence tool to identify suitable patients and improve their recruitment and adherence to vaccination.

Abstract citation ID: ckae144.341
Machine Learning techniques for predicting inpatient probability and LOS from EU Injury Database

Alessio Pitidis

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Background: Unlike statistical inference Machine Learning (ML) makes repeatable predictions without prior assumptions about the underlying relationships among variables. The Full Data Set (FDS) of the EU-IDB (European Injury DataBase) consent to explore risk of hospitalization due to injuries using many predictors. The Length Of Stay of patients in hospital (LOS) is a relevant proxy of complexity of treatment and resources consumption.

Methods: The IDB-FDS provides more than 3.800.000 ED records, in years 2008-19 for 19 Countries. LASSO (Least Absolute Shrinkage and Selection Operator) cross-validated linearized regression technique (linear for LOS) was used for variable selection and parameter regularization. Inpatients are those admitted or transferred to hospital. Days of hospitalization were used for LOS. A cross-validated Generalized Linear Model was performed on 5 folds randomly sampled assigning 80% of records to training and 20% to testing samples.

Results: The strongest predictors of hospital admission risk, selected by the model were in order of importance: EUROCOST-39 diagnoses categories, Age Group, Intent, Mechanism Of Injury, Activity When Injured, Transport Injury Event, Sex Of Patient, Place Of Occurrence. EUROCOST-39 represents 61,9% of explained variability and age group 19,4%. The strongest predictors of LOS were substantially the same: EUROCOST-39 86,2% of explained variability and age group 8,6%.

Conclusions: The main part of variability in the ML model is explained by diagnoses reclassified according to a disability standardization method. For instance, in the maximum training sample risk of hospitalization ranges from odd 0,76% for hand/fingers sprain up to 154,02% for brain concussion. In the median sample LOS ranges from 0,45 days for strain of hand/fingers up to 11,65 for multi-trauma. A combination of more disabling injury, older age and mechanism of injury (i.e. threat to breathing) increases enormously the risk of hospitalization and LOS.

Key messages:

- Machine Learning techniques applied on EU-IDB can provide identification of relevant risk factors of hospital admission from injuries for targeting preventive measures and organizing health care.
- Artificial Intelligence consents to analyse big amount of data as dimension or analytical detail of information for identifying patterns and predictors of specific indicators for injuries or diseases.

Abstract citation ID: ckae144.342
Predictive machine learning algorithms for metabolic syndrome among Tunisian adults

Mariem Zribi

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Background: Metabolic syndrome (MS), a cluster of interconnected risk factors for cardiovascular disease and type 2 diabetes, poses a significant health burden globally. In Tunisia, amidst an ongoing epidemiological transition, the prevalence of MS presents a growing concern. Our study aimed to identify the potential risk factors of MS and propose better machine learning (ML) based models for predicting MS among Tunisian adults.

Methods: Data was sourced from the Tunisian Health Examination Survey THES-2016, encompassing individuals aged 20 years and older. MS was defined based on the criteria set by the International Diabetes Federation. Logistic regression (LR) was employed to determine risk factors for MS. Adjusted odds ratios (aOR) and 95% confidence intervals (CI) were calculated. Five ML algorithms (Naïve Bayes, Support Vector Machine (SVM), Artificial Neural Network (ANN), AdaBoost, and Random Forest (RF)) were utilized to predict MS. Performance evaluation was conducted using accuracy, precision, recall, and area under the curve (AUC) metrics.

Results: Among the 8908 participants, the prevalence of MS was 32.8% (95% CI: 31.4% - 34.6%). LR identified age group 60-69 years (aOR: 18.5, 95% CI: 16.9-19.9, $p < 0.001$), female sex (aOR: 1.7, 95% CI: 1.2-1.9), sedentariness (aOR: 1.6, 95% CI: 1.5-1.8) and low education level (aOR: 1.2, 95% CI: 1.1-1.4) as significant factors associated with MS. Among ML models tested, AdaBoost had the highest accuracy (89.8%), followed by SVM (89.6%). Naïve Bayes had the highest Recall (98.1%) and the most performant AUC (91.4%), while RF had the highest Precision (70.8%). The ANN had an accuracy of 89%, a precision of 70.4%, a recall of 78.7% and an AUC of 85.1%.

Conclusions: Our study highlighted the effectiveness of ML algorithms like AdaBoost and SVM in predicting MS among Tunisian adults, offering potential as early detection tools. However, further validation with larger datasets is necessary to solidify their utility in healthcare settings.

Key messages:

- Metabolic syndrome, a complex of cardiovascular risk factors, presents a substantial global public health challenge and is particularly pronounced in Tunisia.
- Machine learning algorithms, notably AdaBoost and Support Vector Machine, demonstrate promise in forecasting and addressing metabolic syndrome.in Tunisian adults.

6.C. Oral presentations: Ferenc Bojan Young Investigators Award

Abstract citation ID: ckae144.343
Development of the Unbiased Disease Network Using Health Insurance Claims Big Data in South Korea

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Background: Research on the overall relationship between disease is needed. The disease network model can comprehensively show the complex relationships between diseases and progression patterns. Existing disease network studies were estimated by univariate relative risks. We aim to develop the unbiased disease network.

Methods: We used NHIS national data of 50 million patients, collected from 2008 to 2022. We used only the primary diagnosis codes (three-digit codes) and defined 603 disease categories based on the special tabulation list for morbidity in the detailed subcategories of ICD-10, prior research, and the frequency of diseases in the dataset. To develop a more unbiased disease network, we first adjusted for age, sex, period, season, and encounter type, then added the confounding disease exposure according to the Directed Acyclic Graph (DAG) and performed Poisson regression to estimate relative risk (RR) applying Inverse Probability Weighting (IPW). We identified statistically significant disease pairs ($RR > 1.10$, $p < 0.001$) and repeated the IPW analysis up to the third round because the network would be updated every round. The significant disease pairs identified in the last round were connected to develop the overall network and subnetworks by age and sex.

Results: We repeated the process up to the third round for all 346,948 disease pairs and fitted 9,024 pairs as significant. We identified general population disease network and subnetwork per age and sex subgroups.

Conclusions: These disease networks represented the overall progression relationship between diagnosis codes.

Key messages:
- We developed the unbiased disease network that shows progression patterns by adjusting for confounders and using IPW.
- The disease network can be used to extract features from various diagnosis codes in EHR/Claims data, analyze causal effects, and predict disease or healthcare usage using RR or graph embedding.

Abstract citation ID: ckae144.344
Social disconnectedness and the rate of medical conditions: a Danish population-based cohort study

Lisbeth Mølgaard Laustsen

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Background: Lack of social connections has a serious impact on health, increasing the risk of medical conditions such as depression, dementia, and coronary heart disease. However, evidence is limited by a disease-specific focus. We aimed to provide a comprehensive overview of differences in incidence rates of a broad range of medical conditions according to social disconnectedness (i.e., loneliness, social isolation, and low social support).

Methods: We conducted a cohort study using data on loneliness, social isolation, low social support, and a composite measure from the 2013 and 2017 Danish National Health Survey. Survey data was linked with register data on 11 categories of medical conditions through 2021. Poisson regression was applied to estimate incidence rate ratios (IRRs), incidence rate differences, and explore interaction with pre-existing mental disorders.

Results: Among 162,497 survey participants, 7.6%, 3.5%, and 14.8% were identified as lonely, socially isolated, and with low social support, respectively. Lonely individuals and individuals with low social support had a higher incidence rate of all 11 categories of medical conditions (interquartile range of IRRs, loneliness 1.22-1.49 and low social support 1.10-1.14), whereas this was the case for nine categories among socially isolated individuals (interquartile range of IRRs, 1.01-1.31). Applying the composite measure, the highest IRR was 2.61 (95% CI, 2.34-2.88) for a mental disorder and the lowest 1.03 (95% CI, 0.95-1.10) for cancer. We found neither major sex differences nor substantial interaction with pre-existing mental disorders.

Conclusions: Our study confirms and extends the available evidence on social disconnectedness and the risk of medical conditions. The attained knowledge may be of significance for mapping group-specific preventative needs and guiding interventions and health practitioners aiming to reduce the disease burden among socially disconnected individuals.

Key messages:
- Based on survey and register data from 162,497 individuals, our study suggests that social disconnectedness, especially loneliness, is a determinant of a broad range of medical conditions.
- The findings may be of importance for identifying and targeting the disease burden among socially disconnected individuals.

Abstract citation ID: ckae144.345
Pandemic-related PTSD and associated risk factors in the general adult population in the Netherlands

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Introduction: The COVID-19 pandemic introduced widespread stressors and shocking events, impacting mental well-being. Understanding posttraumatic stress disorder (PTSD) prevalence during the pandemic is crucial, yet existing studies on this topic vary widely in methodological quality. This study aims to fill this gap using a large-scale national survey study to examine PTSD prevalence during the pandemic and compare pandemic-related and traditional shocking events.

Methods: This study uses data from the Dutch Public Health Monitor Adults and Elderly 2022, consisting of 365,000 Dutch adults representative for the general adult population. Pandemic-related and traditional events were assessed and anchored to a screening instrument for PTSD: the Dutch version of the PCL-5.

Results: Two-thirds of participants reported experiencing a shocking event during the pandemic. Exposure to pandemic-related events was reported more frequently than traditional events. Overall probable PTSD prevalence due to these events was 2.4%, evenly split between pandemic-related and traditional events. Among exposed individuals, probable PTSD prevalence was 3.7%. This was higher for traditional than for pandemic-related events. Risk factors for developing probable PTSD after exposure to an event during the pandemic were younger age, financial difficulties, loneliness, low resilience and experiencing multiple events.

Discussion: Exposure to shocking events during the pandemic influenced the prevalence of probable PTSD. Despite the lower relative impact of pandemic-related shocking events compared to traditional events, exposure to pandemic-related shocking events accounted for the same amount of probable PTSD cases in the Dutch general population as 5 common traditional events. This emphasizes the need to address mental health consequences of prolonged crises and the demand for healthcare, and the importance of mitigation strategies based on risk and protective factors.

Key messages:

- Exposure to pandemic-related events accounted for approximately the same amount of probable PTSD cases as 5 frequently occurring traditional events.
- Despite pandemic-related events being reported more frequently, traditional events were associated with a relatively higher prevalence of PTSD.

Abstract citation ID: ckae144.346

Work-related factors associated with workplace wellbeing in marginalized groups: a scoping review

Katja Kraljevic

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Background: Workplace wellbeing, or the physical, psychosocial, and emotional health aspects of working life, can be a predictor of overall health. Promoting workplace wellbeing is key for employers and employees because it impacts productivity, engagement, and physical and mental health. At present there is a gap in our understanding of how workplace wellbeing differs in specific worker populations. This review's objective is to evaluate which work-related factors are associated with workplace wellbeing of marginalized groups in the European Union (EU). We used job quality, work-life balance and job satisfaction to represent workplace wellbeing.

Methods: We followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) methodology. Our population of interest was women, immigrant, ethnic minority and/or disabled workers in the EU. We searched the MEDLINE, CINAHL, EconLit, SCI-Expanded, SSCI and SCOPUS databases. Results were restricted to English-language titles published since 1992. No restriction was placed on study design. We used Synthesis Without Meta-analysis (SWiM) guidance to synthesize the results narratively.

Results: We retrieved 2,594 results from the search terms. After full-text screening, 191 studies were included, of which 94 (49.2%) looked at job quality, 50 (26.2%) at work-life balance and 75 (39.3%) at job satisfaction. The most reported negative factors were healthcare jobs, manual work and workplace discrimination; educational attainment and policy co-production were the most frequent positive factors.

Conclusions: Our results indicate prominent inequalities in the workplace wellbeing of marginalized groups across the EU. Additionally, the evidence base on workplace wellbeing in ethnic minority, immigrant and disabled workers is limited. To address this, a larger-scale analysis using cross-EU data and comparing the impact of EU policies on workplace wellbeing of marginalized workers is needed.

Key messages:

- Workplace wellbeing is an important predictor of overall health.
- Our review finds marginalized workers have poorer workplace wellbeing than non-marginalized workers, which could affect their health.

6.D. Skills building seminar: Family Vulnerability Scale: Why and how to use at Primary Health Care to promote health equity?

Abstract citation ID: ckae144.347

Organised by: Hospital Israelita Albert Einstein (Brazil)
Chair persons: Ilana Eshriqui (Brazil), Lorrayne Belotti (Brazil)
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Family vulnerability encompasses multiple perspectives that are interconnected with the health needs of each family member. Families experiencing vulnerability face heightened risks of poor health outcomes. Nonetheless, these vulnerabilities are further compounded by systemic inequalities within healthcare systems, where biological or clinical factors are exclusively considered to organize and/or prioritize access, especially given the scarcity of valid instruments to measure family vulnerability. Primary Health Care (PHC) plays a pivotal role in addressing health inequalities, especially considering its bond with community. From this context, the Family Vulnerability Scale for Brazil (EVFAM-BR, in Portuguese) was developed and validated, been composed of 14 items about four dimensions (income, healthcare, family and violence) (2019-2023). By reducing the gap between science and practice, the implementation process of EVFAM-BR was started at the same year the scale was validated (2023). First, it occurred at 14 PHC services in São Paulo (Southeast Region, Brazil) and second, since 2024 has been implemented at Boa Vista (North Region, Brazil). Also, between 2024 and 2026, the implementation of EVFAM-BR is expected to take place in other Brazilian states participating in the third phase of the PlanificaSUS project, which is developed aiming to support State health departments to implement the Health Care Planning method to organize and integrate PHC and specialized outpatient care based on population health care needs. At this stage, capacity building is needed to align the concept of family vulnerability and to train PHC managers and health professionals on how to apply and use results from EVFAM-BR. This training has already been performed for around 1,000 health professionals from two different regions of Brazil, including managers, Community Health Workers, nurses, and physicians. The present workshop proposal aims to disseminate the EVFAM-BR and to offer the EVFAM-BR experience. It proposes knowledge transferring throughout participants engagement at three activities. Activity 1) "Family Vulnerability: From concept to a scale validity and application": it is designed to engage participants to discuss about the family vulnerability concept and applicability at PHC, and to discuss on how EVFAM-BR implementation process has been occurring at Brazil and how can be tailored to other contexts. Activity 2) "Role Play: Practicing EVFAM-BR": Two cases will be used for role play dynamics that will take place in trios, in which one will represent the community health worker, another will be the patient and the third will be the observer. Activity 3) That ones that assumed observer role will share their experiences of using EVFAM-BR. Finally, a discussion will be facilitated based on the participants' impressions and a review of the main points covered throughout the workshop.

Key messages:

- Family vulnerability stratification (through EVFAM-BR) is essential to plan services achieving equity and qualified population-based care management and to qualify patient approach and care.
- Family Vulnerability Scale (EVFAM-BR) training represents efforts to reduce the gap between research and practice and contributes to address social determinants of health on healthcare.

Abstract citation ID: ckae144.348

Family Vulnerability: From concept to a scale validity and application

Ilana Eshriqui

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This activity will last 20 minutes. An interactive presentation will be structured at three steps. First, a debate will be facilitated to engage participants on the following questions: i. What is family vulnerability? ii. Why should we measure family vulnerability at the context of Primary Health Care (PHC)? Second, once concepts are aligned, a brief presentation about the Vulnerability Family Scale for Brazil (EVFAM-BR) will be performed. At this time, participants will have the opportunity to know about the process of development, validation and the final version of EVFAM-BR (Souza et al., 2023, available at https://doi.org/10.1371/journal.pone.0280857). Third, presenters will share step by step how EVFAM-BR can be implemented into PHC, considering two real-world experiences in Brazil, Southeast and North regions, and will discuss about possible strategies to tailor it at different cultural and geographic context, from settings with higher vulnerability and low resources to high technology settings.

Abstract citation ID: ckae144.349

Role Play: Practicing EVFAM-BR

Ana Alice de Sousa

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This activity will last 20 minutes and will consist in a role Play dynamic, when participants will have the opportunity to experience the Vulnerability Family Scale (EVFAM-BR). Groups of three participants will be formed. In each group, one person will represent the community health worker, another will act as the patient and the third will play the observer role. Half of the groups will receive a case (low family vulnerability) and the other half will receive a second case (high family vulnerability, emphasizing a violence situation occurrence).

Abstract citation ID: ckae144.350

EVFAM-BR: Sharing experiences and closure

Ilana Eshriqui

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This activity will last 20 minutes. After Role Play, participants will sit in large circle and the ones that assumed the observer role will share their experiences of using EVFAM-BR. Subsequently, other participants will be invited to share their experiences and impressions about EVFAM-BR. Based on the participants' impressions and a review of the main points covered throughout the workshop, a final discussion and closure of the workshop will be facilitated.

6.E. Practice session: Using European environmental data in public health: datasets and applications

Abstract citation ID: ckae144.351

Organised by: European Environment Agency
Chair persons: Gerardo Sanchez Martinez (Denmark)
Contact: gerardo.sanchez@eea.europa.eu

The European Environment Agency collects, quality-assures and quality-checks data on environment, climate and sustainability. It does so through its network and other institutional partners across 38 European countries. Most of these validated environmental data are publicly available and many can be used by practitioners to assess environmental risks to the health of their communities, as well as for designing and evaluating policies' effectiveness. The objective of this workshop is to provide public health practitioners and scientists with an overview of the EEA data streams of public health relevance, including on air pollution, noise, water pollution, industrial emissions and climate impacts, among others. It will also highlight existing examples of local and national assessments and communication products based on these data, as well as demonstrating how specifically data on air pollution can be used for a quick health impact evaluation. The format of the workshop will be a practice session of 60 minutes with four presentations, the last being a live example demonstration, and an ample session of questions and answers.

Key messages:

- The EEA collects and publishes large, validated datasets of public health from across 38 member countries, including on air and water pollution, industrial emissions, noise and climate change.
- These data can be directly used by practitioners to assess environmental risks to the health of their communities, and to design and evaluate policies, with publicly available models and tools.

Abstract citation ID: ckae144.352

Environmental and health databases used together for boosting a One Health approach

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Publicly available European environment data, and specifically those collected and published by the European Environment Agency represent a great asset for environment and health researchers and practitioners. This presentation will summarize the use of such data for various environment and health projects and assessments at the National School of Public Health of NOVA University in Lisbon, Portugal.

Abstract citation ID: ckae144.353

EEA data streams of public health relevance: the examples of air pollution, environmental noise and industrial emissions

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The knowledge work of the European Environment Agency relies on high-quality data from our network and other institutional partners across 38 European countries. We collect, quality-assure and quality-check data on the environment, climate and sustainability, many of which are of high public health relevance. This presentation will summarize the most importance EEA datasets of public health relevance, including on air pollution, noise, industrial emissions, and others.

Abstract citation ID: ckae144.354

Using EEA environment and health data to communicate with the public: the European Environment and Health Atlas

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The EEA European Environment and Health Atlas presents information on how pollution and other environmental risks affect the health and well-being of Europeans. It is almost exclusively built on the datasets that the EEA collects from its network, and it summarizes only environmental information of relevance to public health, as well as health impacts from key environmental risks like air pollution, noise and industrial emissions.

Abstract citation ID: ckae144.355

Using EEA data to calculate health impacts of air pollution via the AirQ+ model: a practical example

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The AirQ+ software tool for health risk assessment of air pollution, developed by the World Health Organization, helps quantify the effects of exposure to air pollution. Specifically, AirQ+ can estimate the effects of short-term changes in air pollution (based on risk estimates from time-series studies) and the effects of long-term exposures (using life-tables approach and based on risk estimates from cohort studies). AirQ+ is available in English, French, German and Russian. In this presentation, AirQ+ will be loaded with air pollution data from the European Environment Agency datasets for a quick evaluation of health effects from air pollution in an European city.

6.F. Scientific session: Understanding the impact of climate change on health: the latest reports from EEA and NPHIs

Abstract citation ID: ckae144.356

Organised by: UK Health Security Agency, RIVM (Netherlands), Robert Koch Institute (Germany), European Environment Agency
Chair persons: Lisbeth Hall (Netherlands), Svenja Matusall (Germany)
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Climate change poses a significant threat to human life and wellbeing worldwide. Extreme weather events like heatwaves, storms or floods can have adverse impacts on health, as can many other factors influenced by climate change, such as allergens, UV radiation and vector-borne diseases. In order to support the action needed to protect and promote health and wellbeing, many National Public Health Institutes (NPHIs) aim to keep relevant stakeholders informed on the scientific evidence of the impacts of climate change on health. Reports that synthesise the evidence can help in the development of suitable and health-relevant climate change adaptation and mitigation measures. In this workshop, European Environment Agency assessments on climate and health are presented, including the European Climate Risk Assessment Report and recent outputs of the European Climate and Health Observatory. Next, three NPHIs introduce their recent national reports on the impact of climate change on health, sharing lessons learned and valuable insights into their content, process and reception, highlighting similarities and differences. The workshop will feature presentations by NPHIs from the United Kingdom (UK Health Security Agency), Germany (Robert Koch Institute), and the Netherlands (National Institute for Public Health and the Environment) as well as the European Climate and Health Observatory. The perspective of the European Climate and Health Observatory offers Europe-wide insights as a provider of tools and knowledge that support actions from NPHIs and other health actors. Our aim is to highlight the value of such reports, and inform and inspire NPHIs and other stakeholders that may be considering the publication of similar reports. The format of the workshop will be informative and interactive, with opportunity for Q&A, discussion, and engagement with the audience. By showcasing the recent reports, the workshop aims to increase awareness of climate change as a public health issue and establish NPHIs as key climate actors. Furthermore, it aims to highlight the importance of having a national, up-to-date evidence base to drive climate measures and enhance resilience.

Key messages:

- National evidence-based reports on climate change and health are a useful tool for informing health-relevant climate change adaptation and mitigation measures.
- Through the public health functions of surveillance, monitoring, responding and evaluating, NPHIs play a crucial role in collating and assessing the evidence on the health effects of climate change.

Abstract citation ID: ckae144.357
From the first European Climate Risk Assessment to action in policy and practice

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The first European Climate Risk Assessment (EUCRA), produced by the European Environment Agency in March 2024, engaging nearly 100 authors across Europe, highlights health among the most at-risk sectors. According to the structured risk assessment that was conducted to support the transparent identification of priorities for policy action, more and urgent action is needed to reduce health risks from heat indoors and outdoors; from wildfires and outbreaks of vector- and water-borne diseases. The responsibility for managing risks lies both with the EU and Member States, and the policy readiness varies depending on the risk. The European Climate and Health Observatory, set up to better understand, anticipate and prevent climate risks to human health in Europe, in the most recent report ‘Responding to climate change impacts on human health in Europe: focus on floods, droughts and water quality’ provides in-depth analyses of some climate-related risks to health and presents examples of responses to them in both policy and practice. Both assessments emphasise that without fast and systemic action to increase societal resilience, the health impacts of the changing climate will worsen, affecting already disadvantaged or vulnerable groups the most. Health and health-determining sectors have the opportunity to address the health impacts of climate change by, among others, increasing the climate resilience of health systems; developing, updating and implementing national health adaptation plans; and supporting the education and training of public health and healthcare professionals on climate change threats. At the same time, addressing health impacts from climate extremes requires responses across sectors, actors and spatial scales.

Abstract citation ID: ckae144.358
Health Effects of Climate Change in the UK report 2023

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The fourth Health Effects of Climate Change in the UK report (HECC) was published by the UK Health Security Agency in 2023. The report brings together 15 independent chapters written by 90 experts from UK and international academic and research institutions and UKHSA. It provides an authoritative summary of the scientific evidence on the health effects of climate change in the UK, potential implications for public health and gaps in evidence. Chapters include a combination of new empirical analyses (using the most updated climate data - UKCP18 projections) and synthesis of new evidence. Topics covered include future UK climate, temperature effects on mortality, flooding, outdoor and indoor air quality, aeroallergens, infectious diseases, vector-borne diseases, food supply, wildfires, drought, human exposure to chemicals, solar radiation, health impacts of net zero and indicators for climate change and public health tracking.

Abstract citation ID: ckae144.359
The German Status Report on Climate Change and Health 2023

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The German Status Report on Climate Change and Health was coordinated by the Robert Koch Institute, Germany’s public health institute, and published in 2023 through a collaboration of approximately 100 authors from 30 German institutions. It is an update of a similar report from 2010 and includes review articles and syntheses on the effects of climate change on human health through various influences such as heat, extreme weather, UV radiation, air pollutants and allergens, as well as the effect of climate change on infectious diseases through vector-borne, water-borne or food-borne pathogens. Literature reviews on the potential impact on antimicrobial resistance and mental health explore less well researched effects of climate change on health. The report discusses climate change communication and climate justice as cross-cutting issues and closes with an analysis of the options for action recommended throughout the preceding chapters. While the coordination of this report was funded by the German Federal Ministry of Health, the content was compiled by an advisory board of scientists and the authors recruited by them. The status report is published as 14 individual scientific papers in three issues of the peer-reviewed Journal of Health Monitoring and is available open access in English and in German in order to reach a large scientific audience. Besides the scientific audience, another target group are local authorities contributing towards adaptation and mitigation measures. Insights from the report are being communicated by diverse channels specifically to this latter group and are taken into consideration in the process of shaping the German Strategy for Adaptation to Climate Change.

Abstract citation ID: ckae144.360
Assessing the current health effects of climate change in the Netherlands

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The National Institute for Public Health and the Environment (RIVM) has assessed the current effects of climate change on health as part of a national sector-wide process towards updating the Dutch National Adaptation Strategy. Besides health, this process includes assessing the risks of climate change for water management, agriculture, the built environment, nature and other sectors. It will provide a basis for policy, for prioritising the most urgent risks and for long-term risk monitoring. Six climate-related health topics were assessed for this update: heat, air quality, mental health, UV radiation, pollen allergies and infectious diseases. To allow comparison of the impact and likelihood of the climate-related risks across sectors, a format for factsheets on climate risks had been provided. Following this format, for each climate-related health topic we considered the climate threat, secondary effects, exposure, vulnerability, adaptive capacity, impact and cascading effects. The magnitude of the health impacts was categorised per topic as low (< 10,000 people affected; 0 - 10 seriously injured/dead), medium (10,000 - 100,000 people affected; 10 - 100 seriously injured/dead) or high (>100,000 people affected; >100 seriously injured/dead). The likelihood of these impacts was then described as well as possible black swan events or tipping points. Finally, the policy context was outlined, including possible maladaptation, lock-ins, and equity aspects, followed by quality assurance considerations. For all topics, negative health impacts are already occurring. However, the magnitude of the impacts cannot yet be accurately quantified. In this presentation, we will discuss the results of this assessment and explore the pros and cons of being part of a sector-wide process.

6.G. Scientific session: The importance of using country-specific severity distributions in burden of disease indicators

Abstract citation ID: ckae144.361

Organised by: European Burden of Disease Network, EUPHA-CHR, -PHMR
Chair persons: Elena von der Lippe (Germany), Hanna Tolonen (EUPHA-PHMR)
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One of the most commonly used health gap summary measures in the field of public health is the Disability-adjusted life year (DALY). It has become the key metric for quantifying the burden of disease (BoD) and is used as an information source for setting priorities for health care and health service planning. The DALY metric quantifies gaps between a theoretical population in perfect health and the current health status related to both morbidity and mortality. It is the sum of the number of healthy life years lost due to disability (YLD) and death (YLL). The YLD summarises the loss of healthy life time using the frequency of diseases differentiated by severities or related health states (including sequelae). Depending on each health state, it converts the time spent with diseases into YLD by weighting each year with health limitation with so-called disability weights. This allows the two indicators YLL and YLD to be added to the DALY. Consequently, severity distributions are a means of describing the range of health loss along specific health states, which enables an accurate mapping with disability weights. For most of the diseases, these distributions are usually categorised as mild, moderate, severe, or no health loss (asymptomatic). Conditions with higher severity levels contribute more to the YLD and thus, to the overall disease specific BoD. The severity distributions are highly dependent on utilization at the individual level, but also on available health care services at the society level, which indicates that differences by settings are to be expected. Changes over time in the share of severe cases, for instance, may reflect the effectiveness of health interventions and policies. This underlines the importance of severity distributions, as they also reflect information about the quality of healthcare for those affected. The Global Burden of Disease (GBD) study applies for a significant proportion of their considered diseases uniform severity distributions across countries and broader regions. They acknowledge concerns over applying estimates of severity distributions based on limited data, noting that it is the only available information that they were able to use. As the YLD estimates are often utilized to develop and prioritize health policy interventions, there is a necessity for country-specific estimates that are evidence based and less susceptible to model assumptions. In most cases, the estimation of severity distributions involves complex methodology as data for such assessments are very limited or hardly reliable. In the following workshop, general concepts and country cases from Germany, Scotland, and Belgium will be presented covering a variety of diseases. The examples underline the importance of estimating national and even regional severity distributions when identifying the importance of diseases or comparing the health conditions of populations across time.

Key messages:

- As the Burden of disease indicators are predominantly used to prioritize health interventions and allocate resources, it is crucial to use accurate information in the severity levels of disease.
- Severity distributions reflect the health care services and vary across different settings. Utilising country-specific severity distributions when estimating Burden of Disease indicators is essential.

Abstract citation ID: ckae144.362
Establishing disease models for the Belgian national burden of disease study: challenges and perspectives

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The Belgian national burden of disease study (BeBOD) was launched in 2022, and currently provides disease burden estimates for 38 key diseases. The calculation of the non-fatal component of the disease burden, the Years Lived with Disability (YLD), follows a stepwise approach that aims to establish priority outcomes; quantify prevalence “best estimates”; establish disease models; and perform expert evaluation of methods and results. The disease models visualize the relationship between the different health states associated with a given outcome. Health states include the different acute and chronic stages of the outcome (including complications), which may be stratified in different severity levels (e.g., mild, moderate, severe). Disease models used in burden of disease studies primarily aim to document the considered health states, and do not aim at a representation of the complete clinical picture of the condition. The disease models instead help in understanding how the number of cases for each health state is calculated. Models typically start with one “parent node”, which contains all cases. This parent node then gives rise to multiple “child nodes”, with the terminal child nodes representing the individual health states. In BeBOD, disease models and severity distributions are adapted from the Global Burden of Disease (GBD) study, and complemented with local data where possible. This process ensures consistency with available disability weights, while still allowing for local data to feed into the calculations. In this presentation, we will demonstrate the BeBOD process for establishing disease models based on a number of archetypical examples, which represent varying challenges linked to disease model complexity, clarity and completeness of the GBD disease model documentation, and availability of local data. Future perspectives will be discussed, including the improved leveraging of local clinical data, and the implementation of tailored active data collection.

Abstract citation ID: ckae144.363
Developing survey instruments for low back and neck pain to improve disease severity estimates for burden of disease assessment

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Two people living with the same disease can have very different experiences; one has little consequence, whilst the other struggles with much more debilitating consequences that impacts how they live their lives day-to-day. A growing body of research highlights the need for better estimates of disease severity to facilitate better estimation of the non-fatal burden of disease (BOD). Routine data does not always offer solutions because it's often not coded at a granular enough level to map to individual health states. Data offering solutions are scarce and therefore not available across time or space. Most commentators have quantified the problem of assuming the same proportional severity splits to fill data gaps; a problem common to the Global Burden of Disease (GBD) study and independent BOD studies. However, whilst the need for highlighting the problems associated with this assumption remains, there are other positive steps that can be taken to overcome it. We propose how reproducible approaches can be developed, and present how they can be used to develop disease severity estimates. This involves developing a survey instrument to estimate the overall and health state prevalence of back pain and neck pain, basing health state definitions from the GBD non-fatal disease models, where the classification of cases by severity is based on the combination of respondent's answers. Furthermore, we discuss how self-assessed severity estimates allow for internal validity checks, but also more widely offer opportunities to appraise the appropriateness of GBD non-fatal disease models. The development, and publication, of survey instruments can assist both independent studies and the GBD study to improve estimates of disease severity, as well as retaining important opportunities for cross-country comparability. Understanding the spectrum of severity is important for understanding how disease impacts populations and can inform healthcare provision and expenditure strategies.

Abstract citation ID: ckae144.364
Exploring changes in the distribution of health status in type 2 diabetes over time - methodological aspects for estimating years lost due to disability for Germany

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Knowledge of the severity distribution (SD) of certain diseases is crucial for calculating the years lost due to disability (YLD), as the time spent with a disease is explicitly weighted on the health state level. Depending on the disease, different severity levels are considered. In most cases, the SDs vary from mild, moderate, severe to most severe. This is different in the context of diabetes, where an explicit distinction is made according to the sequelae resulting from the disease progression. In general, these include diabetic neuropathy (with foot ulcers or amputations) and (mild or moderate) vision impairments including blindness due to diabetic retinopathy. These complications cause a considerable loss of quality of life for those affected and high costs for the healthcare system. However, the progression of many of the sequelae can be avoided through (secondary) preventive measures. Estimating the degree of severity is therefore an important indicator of the population affected and in need for care. Due to a lack of data, the Global Burden of Disease Study often uses time-invariant and regionally fixed SDs. Important insights as to the temporal variance of SDs thus remain unnoticed. As part of the BURDEN 2020 pilot project in Germany, SD for diabetes-related complications were estimated from routine health insurance data for the year 2017. In a follow-up project (BURDEN 2.0), these results will also be available for the years 2017 to 2022. If there are any changes in the proportion of individual health conditions, implications can be generated from routine healthcare data of those affected. The SDs overall and according to certain sequelae will be presented over time and discussed. Also, the resulting YLD over time for type 2 diabetes will be examined, including changes in the prevalence of the disease. This makes it possible to analyse and interpret the burden of disease due to diabetes during the years 2017 to 2022.

Abstract citation ID: ckae144.365
Methodological insights into severity distribution of non-fatal cancer burden in Belgium using a microsimulation model (2004-2019)

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This study leverages a registry-based microsimulation model to analyze the non-fatal burden of cancer in Belgium from 2004 to 2019, emphasizing the methodology for severity distribution. Utilizing incidence- and prevalence-based approaches, we estimated Years Lived with Disability (YLD) through detailed national cancer registry data coupled with tailored disease models. The microsimulation model employed enabled nuanced translation of cancer incidence into prevalence estimates, incorporating the longitudinal impacts of disease severity influenced by treatment. Methodologically, the model integrated expert elicitation to adjust for treatment-related disabilities, such as surgical aftereffects, enhancing the accuracy of disability weight assignment across different cancer stages. This approach allowed for a dynamic assessment of disease burden, reflecting real-world complexities of cancer prognosis and treatment pathways. Significant findings include a substantial increase in the age-standardized non-fatal burden for non-melanoma skin cancer, highlighting the model's capability to detect shifts in disease impact over time. By focusing on the microsimulation's capacity to delineate severity distributions within the cancer burden landscape, this analysis underscores the model's utility in refining health policy decisions and resource allocation. Ultimately, this study presents a robust framework for national burden of disease studies, facilitating detailed evaluations of health interventions and their longitudinal effectiveness.

6.H. Round table: Harnessing Patient-Reported Data for Health Innovation: Insights from the OECD PaRIS Initiative

Abstract citation ID: ckae144.366

Organised by: PaRIS Consortium, EUPHA-HSR
Chair persons: Johan Hansen (EUPHA-HSR), Mieke Rijken (Netherlands)
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Summary: This round table will disseminate knowledge and foster discussions on data reported by patients with a chronic disease in primary care settings in 20 countries for enhancing health system responsiveness and effectiveness. By delving into the OECD's Patient-Reported Indicator Surveys (PaRIS) survey's development, adaptation, and analytical strategies, participants will leave with a richer understanding of how patient-reported data can inform and transform health policy and practice in Europe and beyond.

Rationale: The round table aligns with the Conference theme by focusing on the transformative potential of patient-reported data in health systems. OECD PaRIS provide a unique lens through which to examine patient-centered care, showcasing innovative methods to capture and utilize data across diverse health system contexts. This round table will explore the development, adaptation, and analysis of this flagship survey, revealing its critical role in shaping health policies and practices that are attuned to patient needs and experiences.

Objectives: 1. Understanding Development and Testing Processes: To gain insights into the systematic approaches used in developing patient-reported instruments that are both robust and sensitive across multiple healthcare settings; 2. Exploring Co-development and Adaptation: To discuss the challenges and strategies involved in adapting health surveys to various national contexts while ensuring stakeholder engagement and data relevancy; 3. Analyzing Data for Policy Making: To comprehend the analytical frameworks used in processing patient-reported data for crafting effective health policies and identifying factors that influence patient outcomes.

Key messages:

- Patient reported data on experiences and outcomes provide essential information for health systems performance.
- Unique insights into the systematic collection of such information can be gathered through the proposed discussion on the experience of designing and implementing the PaRIS Survey.

Abstract citation ID: ckae144.367

Patient-Reported Indicator Surveys (PaRIS): measuring patient reported experiences and outcomes across populations and health systems

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We aimed to develop and test the performance of a questionnaire for adults (aged 45 or older) with one or more chronic conditions who use primary/ambulatory care across populations and health systems in multiple countries. Candidate scales and items were identified through a systematic process supported by international stakeholders (PaRIS Patient Advisory Panel, Technical Advisory Community and Working Party members of participating countries). Four instruments for each domain, covering patient reported outcome measures (PROMs), patient reported experience measures (PREMs), health behaviours, and health and health care capabilities, were shortlisted using predefined criteria and evaluated using the EMPRO method. A modified Delphi supported selecting a core instrument for each domain and additional relevant scales/items. Consultations took place with the stakeholders to confirm the suitability of the proposed questionnaire. The questionnaire was evaluated through cognitive testing and further modified accordingly. The survey was piloted in a Field Trial. Psychometric evaluation was conducted with data from a Field trial on an item level and scale level. Out of 217 instruments, the Delphi resulted in consensus on a core instrument for each main domain and additional questions to ensure comprehensiveness. The cognitive testing of the draft survey (17 languages, 20 countries) confirmed that most questions were interpreted as intended. The version of the survey developed for the field trial included 118 questions. The field trial psychometric evaluation was based on 10,145 patients, across 18 countries. The questionnaire performed well at item level and at scale level. Performance in terms of structure and validity was good overall. A revised version of the patient questionnaire was created with 115 items. A comprehensive questionnaire has been constructed based on the PaRIS survey framework for people living with chronic conditions and following an inclusive approach.

Abstract citation ID: ckae144.368

Patient-Reported Indicator Surveys (PaRIS): making the case for co-development and adaptation to national contexts

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In this presentation we discuss the early implementation of the OECD's Patient-Reported Indicator Surveys (PaRIS) in primary care, highlighting the importance of co-development and national adaptation. The PaRIS initiative focuses on collecting patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs) from individuals with chronic conditions and their primary care providers. This data collection is critical as populations age and the prevalence of chronic conditions increases, necessitating health systems that prioritize patient-centered care. The co-development process of the PaRIS survey involved extensive international collaboration, incorporating feedback from policymakers, healthcare providers, patients, and academics, thereby enhancing the relevance and ownership of the project. An example of successful stakeholder engagement is the creation of the PaRIS Patient Advisory Panel, which included representatives from various patient organizations who participated in all stages of the survey's development. Challenges encountered during pilot implementations varied by country, influenced by factors like existing data infrastructures and regulatory environments. For instance, countries lacking robust data collection systems faced more significant hurdles in adapting the survey to their contexts. The article emphasizes that while rigorous standardization is essential for making international comparisons, adaptation to local contexts is crucial for addressing specific implementation challenges. The joint efforts of all stakeholders are vital for the success of international initiatives like the PaRIS survey. Such collaborative efforts not only facilitate the collection of meaningful data but also contribute to the enhancement of primary care quality through informed policymaking and improved patient care practices.

Abstract citation ID: ckae144.369
From Data to Decisions: Analyzing PaRIS for Health Policy Insights

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To inform countries on how well they perform from the perspective of people living with chronic conditions in comparison with other countries, we propose an analytical framework for the data collected in the PaRIS survey, detailing how the data will be analysed in a multilevel approach for cross-country comparison. The data structure of the PaRIS survey represents three levels: countries/health systems, primary care practices and patients. Multilevel analysis is used because of its accuracy in estimating country-level outcomes, its flexibility in modelling relationships, and its opportunities in connecting to relevant policy questions. Country-level outcomes will be estimated to facilitate cross-country comparison and (future) within-country comparison over time. A first indication for areas for cross-country learning and policy making is the distribution of variation over patients, care providers and countries. Characteristics of patients that potentially explain variation in patient-reported outcomes and experiences can be linked to primary care practice and country/health system characteristics. The second indication for areas for cross-country learning and policy making is the variation in the slope of the association between patient and practice characteristics and patient-reported outcomes and experiences. This makes it possible to address policy-relevant questions relating, e.g., to whether some health systems or providers are better able to produce positive outcomes and experiences for (e.g.) older patients, and to the impact of chronic care management on patients with a specific chronic condition. To ensure fair cross-country comparisons, all outcomes will be estimated for an OECD (age and sex standardised) reference population, also including case-mix adjustment where necessary. Analyses will be repeated using a country-specific standard population.

6.I. Round table: Strengthening preparedness for public health emergencies: lessons learned and future perspectives

Abstract citation ID: ckae144.370

Organised by: ECDC
Chair persons: Sara Mazzilli (France), Ebba Rosendal (Portugal)
Contact: ebba_rosendal@hotmail.com

In the face of intensifying global health threats, robust health security measures in Europe and worldwide have never been more pressing. The COVID-19 pandemic has underscored the critical need for coordinated action, adaptive strategies, and robust collaborative mechanisms to effectively respond to emerging infectious diseases and other public health emergencies. This workshop serves as a platform to examine the multifaceted landscape of health security actors, focusing on collaborative initiatives and lessons learned from recent crises. By convening experts and stakeholders from across Europe, the workshop aims to achieve several key objectives:

i) To provide an overview of collaborative initiatives established to strengthen European and international health security. By showcasing successful models of cooperation, participants will gain insights into effective strategies for fostering collaboration among diverse stakeholders.

ii) Emphasize the role of European and international institutions, such as the European Centre for Disease Prevention and Control (ECDC) and the World Health Organization (WHO), in supporting states both in coordinating regional response efforts and in developing the necessary health workforce competencies and capabilities to respond to health emergencies.

iii) Drawing on experiences from recent health emergencies, including outbreaks of high-risk pathogens, such as Ebola, the workshop will facilitate a critical examination of lessons learned. Through interactive discussions, participants will identify challenges, best practices, and opportunities for enhancing preparedness and response capacity.

iv) By interactive presentations and panel discussions, the workshop will provide a platform for knowledge exchange and networking among participants. By sharing experiences, expertise, and innovative approaches, participants will contribute to a collective understanding of the challenges and opportunities in strengthening health security.

This workshop seeks to illuminate key strategies, capacity-building efforts, and real-world lessons learnt that contribute to enhancing response capabilities to public health emergencies. Participants will gain a deeper understanding of emergency participation mechanisms, essential skills required, and available training resources to enhance preparedness.

Key messages:
- Collaboration and adaptive strategies are essential for strengthening international health security in the face of emerging infectious diseases and other public health emergencies.
- Lessons learned from recent crises provide valuable insights into effective response strategies and opportunities for enhancing preparedness and response capacity.

Abstract citation ID: ckae144.371
The EU Health Task Force, supporting preparedness and response in the European Union and globally

Adriana Romani Vidal

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The COVID-19 pandemic revealed shortcomings in the European Union (EU) mechanisms for managing public health threats. In 2022, the European Centre for Disease Prevention and Control (ECDC) was mandated to establish the EU Health Task Force (EUHTF) to strengthen preparedness and response at country, EU and global levels. The EUHTF is coordinated by an ECDC Permanent Capacity and relies on pools of experts including ECDC experts, ECDC fellows and European public health experts that can be mobilized for specific assignments or broad public health emergencies. Members from EU/ Economic European Area (EEA) countries, EU agencies, the European Commission, WHO and non-profit organizations advise ECDC on the EUHTF establishment. From May 2023 to April 2024, the EUHTF addressed 13 requests for support from seven EU countries and three non-EU countries. The requests were related to preparedness (e.g. after-action reviews, simulation exercises, mass gathering preparation, capacity building) and emergency response activities (e.g. risk assessment, operational research during crisis, emergency and outbreak response). The EUHTF is operational and able to mobilize expertise from ECDC, the ECDC fellowship and EU/EEA countries. The EUHTF Pool of External Experts, comprised of public health professionals across various levels and institutions of the EU/EEA, is poised to offer comprehensive and robust expertise. Through these resources, the EUHTF is collaborating with and reinforcing the work of EU institutions and other international partners in strengthening preparedness and response.

The EUHTF is a new and structured EU-level approach to public health crises, ensuring tailored in-country support to EU and non-EU countries in preparedness strengthening and crisis response.

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The European Mobile Laboratory: key insights from a decade of outbreak response

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EMLab has responded to emergencies including the West Africa Ebola virus outbreak (2014-2016), the COVID-19 pandemic, and outbreaks of yellow fever, Marburg virus, and Lassa fever. It has deployed mobile labs and experts to many countries, including Guinea, Liberia, Sierra Leone, Nigeria, Uganda, the Democratic Republic of the Congo, Germany, and Greece. With accumulated experience from each deployment, EMLab's diagnostic expertise has evolved beyond RT-PCR and serological testing to include basic point-of-care tests, haematology, and genomic surveillance capacities, also focusing on interoperability with other response capacities such as EMTs. Critical to mission success, the organization works closely with the WHO and GOARN, and was certified in 2023 as an official German response capacity within the European Civil Protection Pool. The two-year continuous deployment from 2014-2016 was pivotal in shaping EMLab's evolution, also leading to significant capacity-building efforts in West Africa. In Guinea, for example, a surveillance network of three diagnostic laboratories has been established and successfully detected cases of viral haemorrhagic fevers, including the re-emergence of Ebola virus and the first reported case of Marburg virus in Guinea in 2021. Ultimately, EMLab's extensive experience demonstrates that effective public health emergency response requires constant evolution, strategic partnerships, and a commitment to building local capacities, paving the way for a more resilient and prepared global health community.

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Training for outbreak response through the Global Outbreak Alert and Response Network

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The WHO designated the Information Centre for International Health Protection (INIG/ZIG 1) at the Robert Koch Institute as the first WHO Collaborating Centre for Global Outbreak Alert and Response (WHO CC GOARN). Its mandate is to aid WHO's efforts in improving the detection of public health events and enhancing preparedness, readiness, and capabilities for alerts and rapid responses. The main focus of WHO CC GOARN at RKI include supporting WHO in the development and implementation of the GOARN training programme on international outbreak alert and response, as well as facilitating knowledge exchange and information dissemination. GOARN's extensive engagement in international public health response underscores the need to complement technical expertise with human-centred competencies like effective communication and teamwork, while respecting diversity. On 18 -22 September 2023, WHO CC GOARN at RKI hosted the first "GOARN Outbreak Response Leadership Training Programme", inviting 24 public health leaders plus highly experienced mentors from all WHO. The training was designed to enhance leadership mind-sets and practices, including advanced interpersonal and situational awareness, managing polarised tension, establishing trusted relationships with stakeholders, and influencing collective decision-making. Alongside expert facilitators and experienced mentors from various fields, participants engaged in open discussion, shared experiences and reflected on lessons from the COVID-19 pandemic and other recent outbreaks. This course provided an opportunity to engage with diverse, experienced and highly regarded leaders, sharing their views and personal experiences on what it means to practise leadership in health emergency response. This training also aimed to build a network of diverse, well-trained and interconnected public health leaders, upholding the principles of diversity, equity and inclusion to ensure that our response efforts resonate with the communities we serve.

6.K. Pitch presentations: Health literacy across generations

Abstract citation ID: ckae144.374
Digital health literacy of adults with low reading and writing skills: A mixed-methods study

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Background: Around 12% of the adult population living in Germany have low reading and writing skills. Little is known about their digital health literacy and use of digital health technologies. The objectives of the Liter@te study were to assess the digital health literacy of adults with low reading and writing skills and to explore which digital tools they used in everyday life.

Methods: A cross-sectional survey ($n = 96$) and five focus groups ($n = 39$) were conducted with adults aged 18-64 years with low reading and writing skills. Digital health literacy was measured using the eHEALS scale and compared with results from a nationwide sample.

Focus group participants completed a task course on digital health information and then discussed their experiences. Survey data were analyzed using descriptive statistics and logistic regression. Qualitative content analysis was applied to analyze the focus group data.

Results: Survey participants were on average 44 years old, 72% were female and 92% were not born in Germany. Compared to the nationwide survey, use of digital health technologies and digital health literacy were lower. In addition, use of digital health technologies was associated with higher digital health literacy. Lack of technical skills, language problems, and searching and finding health information online were most challenging for focus group participants (mean age 43 years, 87% female). Focus group participants reported that they prefer videos when searching for health information online and seek support from family members or local organizations if they cannot find a solution to their health issue.

Conclusions: Adults with low reading and writing skills search for health information online, but have difficulties to find the appropriate information. Interventions to promote digital health literacy are needed to ensure that persons with low reading and writing skills are not further left behind.

Key messages:

- Adults with low language skills have a low digital health literacy.
- Reading and writing requirements and lack of technical skills make it difficult for them to search health information online.

Abstract citation ID: ckae144.375
Health literacy from the perspectives of children and adolescents - a meta-ethnography

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Background: The current literature on health literacy rarely considers the views of children and adolescents. The aim of our qualitative evidence synthesis was therefore to develop a child- and adolescent-centered conceptualization of health literacy.

Methods: We conducted a meta-ethnography of qualitative studies. Our iterative literature search considered the literature up to November 2023. We dually screened 1596 abstracts and 97 full texts, assessed the methodological limitations of the 32 included studies, and considered 21 data-rich studies in the analysis. We extracted first- and second-order constructs, translated the studies into each other, and developed a coherent argumentation. We dually assessed the trustworthiness of the evidence.

Results: The resulting model comprises micro-, meso-, macro- and chronosystems. It highlights the influence of demographic, cognitive and psychological factors on the development of health literacy in children and adolescents at the micro level, the social environment, including family, friends, peers, teachers, and health professionals at the meso level, and the media and internet, the health and education system, the living environment, and the social narrative about health at the macro level. The chronosystem shows the impact of upbringing, development, and experience. Children absorb health information actively and passively, employing various strategies to evaluate its trustworthiness. They seek advice from their social environment, which acts as a source of information and influencing factor. Different types of information are weighed up and ranked before action is not taken.

Conclusions: Existing models of health literacy are too one-dimensional to be applied to children and adolescents and do not consider their social and living environment. The proposed model offers a comprehensive understanding of health literacy in children and adolescents. It can be used as a basis for future interventions to improve health literacy.

Key messages:

- Health literacy of children and adolescents is significantly influenced by a combination of internal and external factors.
- By incorporating the perspectives of children and adolescents, we have developed a more inclusive and nuanced understanding of health literacy.

Abstract citation ID: ckae144.376
Enhance physical, mental and academic wellbeing of pupils in Germany through digital health literacy

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Background: Digital health literacy (DHL) involves the ability to find, understand, appraise, and apply health information from digital sources. It serves as the foundation for informed decision-making about one's health and well-being using digital technology and online health information sources and services. Despite its significance, the role of DHL in relation to schoolchildren's wellbeing remains underexplored. Therefore, this study aims to investigate how schoolchildren's DHL influences their physical, mental, and academic well-being.

Methods: The cross-sectional survey comprised a representative sample of $N = 1448$ school-aged children (9-18 years) living in Germany. DHL was assessed via a translated and adapted version of the DHL instrument. The assessment of physical, mental, and academic well-being relied on the KINDL questionnaire. Linear regression analyses were conducted, with the scale score of physical, mental, and academic well-being serving as dependent variables and DHL as predictor. Additionally, potential confounding variables such as sex, age, migration background, subjective family wealth, chronic illness, and subjective health status were included in the analyses.

Results: All three regression models were significant (physical: $F(9,1325) = 34.99$, $p < .001$; $R2 = 0.19$; mental: $F(9,1320) = 27.43$, $p < .001$; $R2 = 0.16$; academic: $F(9,1336) = 15.19$, $p < .001$; $R2 = 0.09$). DHL significantly predicted physical ($B=.08$, $p=.01$), mental ($B=.17$, $p<.001$), and academic ($B=.21$, $p<.001$) wellbeing.

Conclusions: This study provides the first evidence of the predictive power of DHL for schoolchildren's physical, mental, and academic well-being. It emphasizes the importance of promoting DHL in schoolchildren to empower them to find, understand, appraise, and apply digital health information effectively.

Key messages:

- Digital health literacy significantly predicts schoolchildren's physical, mental, and academic well-being.
- Promoting digital health literacy can empower schoolchildren to make informed decisions about their well-being.

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Health literacy in pregnant women facing prenatal screening: a short report from "SaperePer" project

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Advancements in health promotion and prenatal medicine have made noninvasive prenatal testing (NIPT) a common practice during pregnancy, but understanding prenatal health information becomes crucial not only for the well-being of the mother but also for that of the unborn child. Analyze health-related information during pregnancy is fundamental, and this work fits perfectly with this topic, reporting preliminary results from the pilot study "SaperePer". A health-related questionnaire was administered to 358 women in the first trimester of pregnancy, aiming to study different outcomes: 1.level of knowledge of NIPT; 2.number of screening tests undergone; 3.willingness to undergo a diagnostic test with a high outcome risk of screening test; 4.willingness to end the pregnancy following a diagnosis of pathology. The questionnaire was divided into 3 sections: personal characteristics and lifestyle habits, prenatal health behavior scale (PHBS), and knowledge of NIPT. Preliminary results showed that the level of knowledge of NIPT was higher in older, atheist, working, wealthy highly educated, and preliminary informed women, as well as the higher number of screening tests undergone and the propensity to undergo an invasive diagnostic test after a high-risk screening result (KS and MW tests $p < 0.05$). On the contrary, women with lower education, faithful and, even more, not preliminary and appropriately informed during prenatal counseling showed lower knowledge of NIPT, lower number of tests undergone, and meager chances to undergo an invasive diagnostic test or to end the pregnancy after a positive diagnosis of pathology (KS and MW tests $p < 0.05$). In conclusion, this study evaluated health-related information during the first but crucial stages of pregnancy, opening a new understanding of how health literacy and correct prenatal counseling could increase awareness and health promotion in pregnant women, particularly in those women with lower cultural tools.

Key messages:

- Health literacy and correct prenatal counseling could increase awareness and health promotion in pregnant women.
- Understanding prenatal health information becomes crucial both for maternal and prenatal well-being.

Abstract citation ID: ckae144.378

Limited critical and communicative health literacy is related to poorer health among older adults

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Background: Health literacy-related challenges are expected to increase with age due to a discrepancy between individual capacity and health care demands. Knowledge about associations between health literacy and age-related health outcomes among older adults is scarce. This is important to address and promote optimal health in older adults. The study aims to investigate the association between health literacy and health status among older adults and explore differences between the younger old and the oldest old adults.

Methods: Cross-sectional study using SWEOLD population-based data from 2022, a national representative sample of people 77+ years in Sweden. Univariate and multivariate logistic regression analysis assessed associations between communicative- and critical health literacy and health outcomes. Models were adjusted for age, sex, and socioeconomic status, and stratified by age.

Results: Significant adjusted associations were found between inadequate and problematic health literacy and less than good self-rated health (OR 2.64, 95%CI: 1.61-4.33; 2.11, 95%CI: 1.40.3.17), and requiring assistance with medicine management (OR 5.26, 95%CI: 2.67-10.38, 2.14, 95%CI 1.08-4.22). Among the younger old (77-84 years) inadequate and problematic HL was associated with having lifestyle-related conditions (OR 1.77, 95%CI: 1.07-2.93, 2.75, 95%CI: 1.33-2.71). Among the oldest old (85+), inadequate health literacy was associated with higher likelihood of poor activities of daily living (ADL) (OR 4.48, 95%CI: 1.99-10.07) and frailty (OR 3.51, 95%CI: 1.43-8.47). Level of frailty increases earlier in age for individuals with limited HL than among those with sufficient HL.

Conclusions: Limited health literacy is a prevalent issue in the older population and is associated with negative health-related outcomes. To mitigate development of poor health and frailty and to promote healthy ageing, care organisations need to meet the needs of this population in a health literacy friendly way.

Key messages:

- Limited health literacy among the older population is associated with several negative health-related outcomes.
- Care organisations need to work actively to mitigate the development of poor health while promoting healthy aging among the older population in a health literacy-friendly and age sensitive manner.

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Using PPI and UDL principles to design a gastrointestinal endoscopy patient information video series

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Introduction: Patients undergoing GI endoscopy often experience anxiety and due to limited health literacy. Traditional paper-based information leaflets are often not sufficient to accommodate for the diverse way in which people consume information. Public and patient involvement (PPI) and universal design for learning are two well-described pedagogical principles. We wanted to use these principles to design more effective patient education materials.

Objectives: Given the heterogeneity of resources available to patients, the authors wanted to develop a high-quality and trustable video resources for patients that would be available on our hospital website. These videos would be co-designed by patients and ancillary staff, through the formation of a key stakeholder panel.

Results: Using PPI principles, we were able to improve the relevance and quality of our content, through the use of storyboards and the expertise of the stakeholder panel. Through the three key UDL principles of multiple means of representation, engagement and action and expression, we were able to ensure that our videos were accessible and appropriate for all of our patients. Initial feedback from stakeholders and patients provided valuable insights, prompting necessary adjustments for accuracy and patient understanding. This comprehensive approach underscores the commitment to enhancing healthcare delivery. Our project is the first guide in combining both pedagogical principles in the development of patient information and education materials.

Conclusions: The meticulous steps taken, from stakeholder engagement to video production, reflect a commitment to inclusivity and patient-centred care. Ongoing evaluation and feedback mechanisms ensure continuous improvement, contributing to the overall success and sustainability of the digital service.

Key messages:

- This is the first research/patient education piece designed using both PPI and UDL principles.
- The importance of patient-centred educational design is key to improving health literacy and education in our patients.

Abstract citation ID: ckae144.380
Does School Education Improve Children's Health Literacy? Evidence from a Performance-Based Survey

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Background: Children begin using digital sources of health information at a young age and are quickly exposed to a variety of unmoderated health content. Health literacy helps children navigate, understand, evaluate, and act on this content. But is the educational system preparing young people for these tasks? This study develops a validated, performance-based measure of health literacy and applies it to a sample of 9- to 13-year-old children (grades 4 to 7).

Methods: A performance-based tool to measure children's health literacy was developed through expert consultation and qualitative and quantitative pretesting. The tool uses vignettes and quizzes and captures three dimensions of health literacy: nutrition, physical activity, and psychosocial health. The validated tool was then used in a cross-sectional survey of Austrian children aged 9 to 13 years (n = 780): Diet, Physical Activity, and Psychosocial Health.

Results: Results show that the performance-based health literacy scores do not correlate with self-reported scores. Girls (vs. boys) and native speakers perform better on the performance-based literacy test, while boys and children reporting more robust financial backgrounds overestimate their literacy on self-reported questions. Most importantly, the data do not show meaningful increases in performance-based health literacy across grade levels. For nutrition literacy, the study even shows a slight negative trend across grade levels.

Conclusions: This study questions the heavy reliance on self-reported health literacy, which is often confounded with self-efficacy and social environment. Performance-based instruments are needed to measure health literacy as an educational outcome. This study presents one of the first validated instruments. Most importantly, the study shows that the current educational system may not produce meaningful increases in performance-based health literacy, calling for deeper educational reforms.

Key messages:

- Performance-based health literacy is a distinct concept from the subjective health literacy measures that dominate current health literacy research.
- Performance-based health literacy did not increase with grade level, indicating a poor performance of the education system in strengthening health literacy.

6.L. Pitch presentations: Health policy evaluations

Abstract citation ID: ckae144.381
Policies and programs on children's health promotion in the EU in the context of the JA Health4EUKids

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Background: Overweight and obesity prevalence are a global public health challenge. The prevalence is rapidly increasing, with significant health risks such as cardiovascular disease, type 2 diabetes, and cancer.

Objectives: To describe the state of the art of policies and programs (PPs) on children's health promotion and responsive parenthood (children 0-12 years) in the EU, and to identify their gaps.

Methods: A cross-sectional study was carried out through an online survey, as part of the Health4EUKids Joint Action (JA) (HADEA n.101082462), between October and December 2023, targeting all EU member states (MSs) involved.

Results: The survey collected information about 74 PPs from 11 EU MSs of the JA. The PPs are primarily focused on healthcare (62.1%), education (24.1%), and social sectors (10.3%), with a focus on children aged 6-11 years. The settings for PPs include primary schools, communities, secondary schools, and healthcare services. The PPs are characterized by different degrees of innovation, controversy, equity, transferability, and sustainability, although the structural or systemic impact and public visibility appear to be lower among other characteristics. The formulation and design of PPs include problem analysis (73%), based on national or local data and on stakeholder consultation. As for implementation, most PPs are implemented upon release, but recommended action and allocated human resources are not fully adequate. Regular monitoring and evaluation (47.3%) are based on defined outcomes, standards, and indicators (63.5%). The results are disseminated to decision-makers and stakeholders (37.8%), through media, and to the general population (32.4%).

Conclusions: Most PPs are variable and context-dependent. It is necessary to align the policies with the implementation, in all its aspects, and to strengthen monitoring, evaluation, and communication with the relevant stakeholders, which currently appear to be the most lacking aspects.

Key messages:

- Most European policies and programs are context-dependent, mainly in healthcare. Yet, a cross-sectoral trend involving health, education, and social sectors emerges.
- The study stresses the need for better alignment between policy formulation and implementation to enhance the effectiveness of EU children's health programs.

Abstract citation ID: ckae144.382
'Health in all policies": effect on health outcomes and collaboration among welfare actors

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Background: The 'Health in All Policies' (HiAP) approach, introduced in 2006, recognises the impact of policy decisions and actions on population health. It prioritises health and well-being as a core objective of all public policymaking, ensuring that policies promote health equity and social justice. Implementing HiAP requires collaboration among diverse welfare actors beyond healthcare. Thus, reviewing evidence of the effects of HiAP on collaboration among welfare actors and health outcomes is crucial for informing policy and practice intersectoral collaboration to improve population health outcomes. This study addresses the question: What is the existing evidence of the effects of HiAP on better collaboration among welfare actors and improved health outcomes from 2006 to 2023? We conduct a scoping review on peer-reviewed articles following the Joanna Briggs Institute reviewer's manual, the five-stage framework outlined by Arksey and O'Malley, and adhering to the PRISMA extension for scoping reviews for reporting.

Preliminary results: 472 research articles and 68 other documents published from 2006 to 2023 were identified, mainly from Europe and North America. 90% of the reviewed studies focused on collaboration among welfare actors, while 10% examined the effect of HiAP on improved health outcomes. Themes identified in the studies on collaboration among welfare actors include funding, intersectoral partnerships, shared vision, local and national settings, identity and responsibilities, accountability, dedicated staff, Health Impact Assessment, and indicators.

Conclusions: Despite being widely referred to as an effective approach in health policy, there is limited evidence of the effects of HiAP on health outcomes. However, some evidence supports that HiAP contributes to enhanced collaboration among welfare actors, potentially leading to better health outcomes. More evidence is needed that specifically investigates the effects of the HiAP approach on health outcomes.

Key messages:

- Most evidence suggests that HiAP has a positive impact on collaboration among welfare actors; however, evidence of its effects on health outcomes is limited.
- Further research that specifically explores the effects of the HiAP approach on improved health outcomes is crucial for informing policy and promoting intersectoral collaboration.

Abstract citation ID: ckae144.383
Why is regulation of the online world urgently needed to protect children's wellbeing?

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Background: The online world affords children many benefits, such as connectivity and access to educational and cultural content. Simultaneously, it increases their likelihood of encountering harmful or distressing web-based content and behaviour, such as marketing for harmful products, violent or discriminatory material, and cyberbullying. Yet, there is a dearth of objective research globally on children's real-time experiences, with current research relying on self-reports or observations made in experimental conditions. This paper reports on the nature and extent of children's online world.

Methods: Kids Online Aotearoa is a cross-sectional observational study of children's real-time experiences of the online world. A strategic sample of 180 12-year-olds from schools in the Wellington region of Aotearoa, New Zealand, used Zoom video conferencing software to record their online world for four days. Recordings were analysed manually and using AI.

Results: Children spend most of their time online on their phones, often using TikTok. Children spend 25 % of their online phone time gaming or watching games (game time). They encounter many gambling and gambling-like activities while doing so. Of game time, 16% of the time children are exposed to marketing. Preliminary analysis reveals that children are exposed to marketing for alcohol, junk food, tobacco, vapes and gambling. This is counter to national legislation prohibiting or restricting such marketing to children.

Conclusions: This novel methodology reveals the actual online experiences of children as they go about their daily lives. This includes engaging in harmful behaviours such as gambling and encountering harmful product marketing. While from New Zealand, this study is likely to be relevant for other countries given the global reach of the online world. The research indicates the urgent need for national and global government regulation of the online world to protect the rights of children and ensure their wellbeing.

Key messages:

- Kids Online Aotearoa reveals the nature and extent of children's online world, including their exposure to harmful product marketing.
- National and global regulation of the online world is urgently needed to protect child rights and wellbeing.

Abstract citation ID: ckae144.384
The Impact of Portuguese Community Pharmacies on Influenza Vaccination Accessibility and Coverage

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Background: Vaccination reduces influenza infections. Non-adherence often stems from external barriers like distance to vaccination sites. To counteract the projected coverage decrease for 2023/24, Portugal's Government expanded free Influenza vaccination to those ≥ 60 and to community pharmacies (CP), enhancing proximity and availability. This study aimed to assess the impact of CP inclusion on the distance to vaccination sites and on Influenza vaccine coverage in the 2023/24 campaign.

Methods: Analytical study, evaluating the average distance (km) from population to the nearest vaccination site per municipality using GPS coordinates from National Health Service (NHS) sites and CP. The Global Human Settlement resident population grid was derived from Eurostat 2011 Census, Corine Land Cover Refined 2006 and European Settlement Map 2016. Scenarios with and without CP were compared. The difference (%) in distances between 2022/23 (NHS sites) and 2023/24 (NHS sites and CP) and the coverage for the top and bottom 10% of municipalities with the highest and lowest distance reductions were calculated.

Results: In the 2023/24 Influenza vaccination campaign, 844 NHS sites and 2487 CP participated. Excluding CP, the average distance to the nearest NHS site was 2.4 km, decreasing to 1.2 km with CP inclusion (-50.5%). As of March 31, 2024, influenza vaccine coverage for those aged $\geq$65 was 72.1%, decreasing 0.1 percentage points (pp) compared to 2022/23 (72.2%). For the top 10% municipalities with the highest distance reduction (up to 66.5%), coverage increased by 1.3 pp compared to 2022/23. Conversely, the bottom 10% (reduction under 10.3%) experienced a decrease of 4.5 pp.

Conclusions: The inclusion of pharmacies has effectively reduced access barriers, filled geographical gaps, and improved proximity to vaccination. This strategy appears to have a positive impact on influenza vaccination coverage, particularly amid growing hesitancy, with potential for broader public health strategies.

Key messages:

- The inclusion of community pharmacies in the 2023/24 Influenza vaccination campaign reduced the average distance to the nearest vaccination site by 50.5%, from 2.4 km to 1.2 km.
- In 2023/24, for the top 10% municipalities with the highest distance reduction (up to 66.5%), coverage increased 1.3 pp compared to 2022/23.

Abstract citation ID: ckae144.385
Exercise interventions for Long COVID: a systematic review of randomised controlled trials

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Background: Long COVID is prevalent and costly. There is much debate around the effectiveness and tolerance of exercise among people with Long COVID due to the potential to exacerbate symptoms. Therefore, this systematic review aimed to examine the effectiveness and tolerance of exercise interventions among people with Long COVID as part of a wider project to inform updates to the Irish Health Service Executive's Long COVID interim model of care.

Methods: Medline via EBSCOhost, Embase, and CENTRAL were systematically searched on 28 February 2023. Inclusion criteria were: (1) participants with Long COVID; (2) random assignment to either an exercise intervention or a comparison group; (3) a quantitative measure of at least one of 12 core Long COVID outcomes. Two reviewers independently extracted data and assessed study risk of bias using the Cochrane Risk of Bias tool.

Results: In total, 4,394 studies were identified, 569 full texts were screened, and eight studies were included. Follow up periods ranged from two to 28 weeks (mean=8.5 weeks). Sample sizes ranged from 39 to 119 (mean=56). All studies were in adults (mean age=49.9 years) and both sexes (mean female proportion=53.9%). Four studies were at low risk of bias, two unclear, and two high. The evidence suggests that exercise interventions led to short-term improvements in dyspnoea, fatigue, physical function and the physical domain of quality of life. Of the five studies that reported adverse events, rates were low and, when reported, mild. Of the seven studies that reported sufficient information, one of 252 participants who received exercise discontinued the intervention due to tolerance-related issues.

Conclusions: Available evidence suggests that exercise interventions may have short-term benefits and be tolerable among some people with Long COVID. However, the evidence base consists of a limited number of studies with small sample sizes and short follow-up periods.

Key messages:

- There is much debate around the effectiveness and safety of exercise among people with Long COVID due to the potential to exacerbate symptoms.
- The available evidence suggests that appropriate exercise interventions may have short-term benefits and be tolerable. However, there are notable limitations among the evidence.

Abstract citation ID: ckae144.386
Effects of legal age change on adolescents' perception of access to alcohol in Portugal

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Background: Adolescents and young adults are a group particularly vulnerable to the effects of alcohol consumption. In Portugal, legislative changes in 2013 and 2015 prohibited the sale of alcoholic beverages to under-18s. This study aimed, first, to evaluate the impact of these policy shifts on the perceived access to alcohol among Portuguese adolescents, and second, to assess the different impacts across gender and socioeconomic strata.

Methods: Data from the ESPAD survey, spanning 1995-2019, was used. A quasi-experimental difference-in-differences study design was employed, using Finland, Norway, and Sweden as controls. The perceived access to beer, wine, and spirits among 16-year-old adolescents was used as outcomes, adjusted for gender and parental education. Results were also stratified by gender and by parental education status.

Results: After the increase in the minimum age for alcohol sales, there was a higher perceived easiness of access to beer (coef=0.018, $p = 0.001$) and a decline in spirits (coef=-0.088, $p = 0.022$), with no changes in wine. Male adolescents exhibited a decrease in the perception of access to spirits (coef=-0.100, $p = 0.007$) and wine (coef=-0.049, $p = 0.049$), while changes in the perception of access to beer were non-significant. Similar patterns were observed in female adolescents, yet non-significant for wine or spirits. These positive impacts on beer and negative impacts on spirits were observed in the different socioeconomic groups; wine was the exception, with only the highest-education group showing a decrease in the perception of access (coef=-0.056, $p = 0.011$).

Conclusions: In this study, the effect of raising the minimum age for alcohol sales in Portugal varied according to the alcoholic beverage, gender, and, for wine, according to the socioeconomic group. These findings suggest limitations in the policy's effectiveness and equity. Future research should delve into the underlying causes to optimize health-promoting policies.

Key messages:

- Portugal's alcohol policy changes led to differential impacts on the perception of access to alcohol, with an impact in higher alcohol content beverages.
- The impact of alcohol policy changes also differed across gender and socioeconomic status, with a stronger effect on male adolescents and higher socioeconomic strata.

6.M. Scientific session: Risk And Resilience Factors Of Mental Health During COVID: European Multi-country Data Findings

Abstract citation ID: ckae144.387

Organised by: Vrije Universiteit Amsterdam (Netherlands)
Chair persons: Anke B Witteveen (Netherlands)
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The COVID-19 pandemic significantly affected mental health. It worsened the mental health and well-being of those already vulnerable or exposed to excess pandemic-related stress. In addition, lockdowns and other measures created additional obstacles to mental health support access. In response, the European Commission funded the RESPOND project in 2020, aimed at enhancing the preparedness of mental health systems for pandemics and global crises. As part of the RESPOND project, (meta-)analyses were conducted on prospective cohort datasets, national health register data, and multi-country individual participant data (IPD). The aim was to examine whether there was a change in prevalence rates of mental health conditions (e.g., anxiety and depression) in the general adult population of the EU during, compared to before and in between, the COVID-19 pandemic waves. Analyses on risk factors (e.g. socio-demographic- and economic factors, severity of COVID-19 infection, (lack of) social activity and support, and loneliness) associated with psychological distress and mental disorders as well as resilience and well-being (coping strategies and core value orientations) in the general population or specific vulnerable groups were conducted as well. This workshop will feature five talks covering various aspects of the RESPOND epidemiological analyses. First, an introduction and rationale of the RESPOND study on short- and long-term impacts of the COVID-19 pandemic and outbreak response, will be provided. Subsequently, findings from the multi-country longitudinal COvid MEntal healTh Survey (COMET) on forecasting psychological distress throughout the pandemic will be presented. Second, findings from the French TEMPO (Trajectoires EpideMiologiques en POpulation) cohort and merged datasets will be presented indicating associations and interactions between socioeconomic factors, mental health, and public health behaviours during the pandemic. Third, using data of a large Belgian prospective cohort, fluctuations in risk of psychological distress across study waves and the factors associated with individual trajectories of psychological distress during the COVID-19 pandemic will be presented. Fourth, the risk of SARS-CoV-2 infection, severe COVID-19 outcomes, and death among individuals with various mental disorders, based on Spanish health records, will be presented with specific attention to sex differences. Finally, based on the IPD meta-analyses of 9 European cohorts, findings on stressor reactivity, resilience trajectories, and factors associated with resilient outcomes and vulnerability are presented. By presenting a selection of findings from large datasets together, we aim to facilitate discussions on critical topics such as vulnerability and resilience to mitigate mental health impacts in future public health crises.

Key messages:

- Targeting specific individual vulnerabilities appears to be more effective in reducing the pandemics' mental health impact than solely responding to pandemic-related fluctuations.
- Research and harmonised data on vulnerability and resilience factors are essential for guiding the development of targeted interventions and support systems for vulnerable populations during crises.

Abstract citation ID: ckae144.388

Forecasting Psychological Distress Across Waves Of The COVID-19 Pandemic: A Multi-country Longitudinal Study

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The current study used a longitudinal multi-country cohort survey ($N = 8013$ at baseline; age (M) = 40.3, $SD = 15$; female 76%) to investigate whether psychological distress assessed at five waves (May-June 2020; September-October 2020; December 2020-January 2021; March-April 2021 and March-May 2022) during the COVID-19 outbreak can be forecasted by a variety of socio-demographic and psychological- and COVID-related factors assessed at baseline. Psychological distress was defined by elevated depression and/or anxiety scores (PHQ-9 and GAD-7 $>=$ 10). Predictors included demographic characteristics (e.g., gender, age, education), infections with COVID-19, loss of income, substance abuse, domestic violence, contamination fear, basic value orientations, social support and coping strategies. A Random Forest (RF) prediction model within a machine learning context was used to estimate the association between the independent variables and the presence of psychological distress among respondents completing all waves ($N = 1052$). Preliminary RF results showed that psychological distress at multiple waves, both during the initial phases (2020) as well as the more protracted phases (2021 and 2022), was adequately forecasted by scores on a number of basic value orientations (e.g., lower tradition and conformity, higher security and predictability), by demographic characteristics (e.g., younger age), by the fear of being contaminated, and by lower levels of social support and higher levels of loneliness. It is concluded that during a pandemic, certain personal values may elicit more vulnerability for psychological distress than others. Effective psychological intervention strategies should encompass personal traits and values and factors such as low social support levels and feelings of loneliness to mitigate distress. These insights can help in accurately pinpointing high-risk groups for heightened distress in future public health crises.

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Socioeconomic And Mental Health Challenges: Lessons From The COVID-19 Era

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The relationship between work arrangements, financial difficulties, compliance with COVID-19 sanitary measures, and preexisting mental health issues amidst the ongoing pandemic is multifaceted. By merging data from the TEMPO cohort and other European cohort studies during the RESPOND European project, we seek to provide comprehensive about these dynamics for developing targeted interventions and policies aimed at mitigating the adverse impact of pandemics on mental well-being. Our analyses reveal significant associations between unemployment, financial strain, and elevated levels of symptoms of anxiety and depression during the

COVID-19 pandemic. Even after controlling for pre-pandemic socioeconomic and mental health factors, individuals experiencing unemployment or financial difficulties were more likely to report heightened mental distress. Additionally, our findings highlight gender-specific patterns in compliance with COVID-19 sanitary measures, with women exhibiting increased compliance amidst mental health difficulties, while men, particularly those with lower educational attainment, demonstrated decreased compliance. These preliminary results underscore the complex interplay between socioeconomic factors, mental health, and public health behaviours during pandemics. In conclusion, our study underscores the urgent need for targeted interventions and strategies to address the intersecting challenges of mental health, employment, financial strain, and compliance with public health measures during the COVID-19 pandemic. The findings emphasize the importance of considering socioeconomic disparities in designing effective interventions aimed at promoting public well-being and resilience in the face of future pandemics. By leveraging these insights, public health practitioners and policymakers can develop evidence-based approaches to support individuals and communities experiencing heightened vulnerabilities during times of crisis.

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Psychological Distress Changes During COVID-19: A Belgian Cohort Study On Psychosocial Factors

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Longitudinal studies have identified an increase in psychological distress across the general population during the COVID-19 pandemic. Nevertheless, the trajectories of mental health outcomes exhibit variations, suggesting potential associations with psychosocial individual factors. This paper identifies the factors of this individual trajectory of psychological distress during the COVID-19 pandemic. Five waves of a prospective cohort survey were conducted with a convenience sample of the general population in Belgium between March 2020 and November 2021 ($n = 4,550$). Psychological distress was measured using the GHQ-12. Individual covariates included socioeconomic factors (age, gender, level of education), psychological factors (loneliness, social support, and social activities), and factors related to the virus and the lockdown measures (exposure to COVID-19 and survey wave). Multilevel models were used for analysis. Women and young people experienced more pronounced fluctuations in their risk of psychological distress across study waves, experiencing both increases and decreases. We found that individual variance in psychological distress breaks down into two components, respectively 43% for psychosocial factors (time-invariant) and 57% for the survey waves (time-variant) variation. A significant share of the time-invariant difference in psychological distress over COVID-19 is associated with loneliness, social support, and social activities. Loneliness emerged as the most important interpersonal factor associated with psychological distress. The change in psychological distress was mainly associated with psychosocial factors rather than with pandemic-related dynamics (e.g. survey waves). These findings suggest that mitigation policies aiming at controlling the pandemic should focus more on addressing specific individual vulnerabilities rather than solely responding to the fluctuations within pandemic waves to decrease their detrimental impact on mental health.

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SARS-CoV-2 Infection And COVID-19 Outcomes Among Mental Disorders: A Register-based Study in Catalonia

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This study aimed to study the risk of SARS-CoV-2 infection and severe COVID-19 outcomes across different mental diagnoses and to assess the role of sex in these associations. We used electronic health records from Catalonia to identify adults receiving inpatient/outpatient mental health care between 2017-2019 with diagnosis of non-affective psychosis (NAP), bipolar disorder (BD), depressive disorder (DEP), stress-related disorders, neurotic/somatoform disorders (NSD), and substance misuse (SUB) (exposed). Outcomes included SARS-CoV-2 infection, COVID-19 hospitalization, and COVID-19-related death. Adjusted logistic regression analyses were conducted. 785,378 adults were included (70.3% $<$ 65 years old; 57.1% women). Compared to unexposed, those with NAP [OR (95%CI): 0.84 (0.80-0.88)], BD [0.80 (0.75-0.86)], DEP [0.97 (0.94-1.00)] and SUB [0.81 (0.78-0.84)] had a lower risk of SARS-CoV-2 infection, while people with NSD presented an increased risk [1.03 (1.01-1.06)]. Among those infected, people with DEP, NSD, and SUB had a lower risk of COVID-19 hospitalization, but higher risk of COVID-19-related death [1.23 (1.07-1.41); 1.26 (1.07-1.48); 1.48 (1.24-1.71), respectively]. A higher COVID-19-related death was also found in people with NAP and BD [1.68 (1.34-2.12); 2.02 (1.50-2.73)]. Sex-stratified analysis showed that women with NSD were especially vulnerable to infection [1.07 (1.03-1.11)], and women with DEP and NSD to COVID-19-related death [1.24 (1.05-1.47); 1.26 (1.02-1.54)]. These results suggest different vulnerabilities to infection and COVID-19 hospitalization and death across mental disorders. These findings have implications for pandemic preparedness, highlighting the need for specific public health strategies to mitigate the excess of mortality of people with certain mental disorders.

Abstract citation ID: ckae144.392

Stress Resilience And Resilience Factors Across 9 European Samples During The COVID-19 Pandemic

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While many describe changes in mental health over the pandemic, we investigate change in resilience over time during the pandemic. Stress resilience can be operationalised as stressor reactivity, that is, how much a person's mental health is affected by the stressors that they experience. Utilising the individual participant data (IPD) meta-analyses megadataset available we first define and quantify how many stressors individuals. We then regress this stressor exposure on mental health within each sample to compute each sample's normative stressor reactivity. Each person's individual stressor reactivity is then calculated as the residual to this line at each time points. Resilient outcomes can be understood as lower reactivity as this indicates lower susceptibility to stressors. Stressor reactivity (SR) scores control for individual stressor exposure, therefore allowing us to investigate resilience factors during a time in which exposure to macro and micro stressors varied greatly between individuals. Further, SR scores are a harmonised outcome that can easily compared across different samples in the IPD dataset. Using this outcome, we present findings on resilience trajectories and identify factors that are associated with resilient outcomes. We also disentangle the role of current stressor exposure and prior stressors, showing that prior exposure to stressors increases vulnerability in subsequent exposures. Our findings show that stressor reactivity over time was more stable than mental health symptoms during the pandemic, therefore indicating that SR as an outcome offers new insights into the impact of the pandemic.

6.N. Pitch presentations: Adolescent health

Abstract citation ID: ckae144.393
The association between electronic media use and quality of life (QoL) in Norwegian adolescents

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Background: The use of screens, especially mobile devices like tablets and smartphones have increased over the last years and have become an integrated part of modern life. Adolescents today spend a lot of their time using screens both at school and outside school. Identifying how screen use are related to QoL is necessary to plan effective policies and interventions in adolescence since it is the period where different behaviours are adopted. The purpose of this study is to examine the association between electronic media use and quality of life (QoL) among adolescents.
Methods: This study was based on self-reported cross-sectional data from the Young-Hunt4 study, conducted in 2017-2019. The target group comprised 8066 13-19 years old adolescents. QoL was measured with the Norwegian version of the Inventory of Life Quality (ILC). The ILC scale consists of seven items with four response alternatives. Electronic media use was measured using the two variables Social media use and Gaming. Multiple linear regression was used to analyse the association between gaming, social media use and QoL.
Results: Preliminary results showed an inverse association between gaming (>3 hours per day) after school and quality of life (β: -.07, $p < 0.001$) and social media use (>3 hours per day) after school and quality of life ($\beta = -.06$, $p < 0.001$). Similar inverse associations were observed between gaming (>3 hours per day) in the weekend and quality of life (β: -.09, $p < 0.001$) and social media use (>3 hours per day) in the weekend and quality of life ($\beta = -.04$, $p = 0.002$). These associations remained significant after controlling for gender, age, family economy, psychological distress and having friends.
Conclusions: More than three hours on screens per day after school was negatively associated with QoL. Hence, public health policy and practice should pay attention to consequences of screen time use in adolescence. Additional research is needed to further explore these associations.
Key messages:
- More frequent use of electronic media is negatively associated with QoL.
- Public health policy and practice should pay attention to screen time in adolescence and its association with QoL.

Abstract citation ID: ckae144.394
Adolescents witnessing family violence and its association with socio-economic factors

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Background: About 200 000 children in Sweden live in families where violence among adults occurs. About 10% of children have witnessed violence family violence Family violence is often more prevalent in low social status families. The present study describes adolescents that have witnessed threats of violence, abusive words or physical/sexual violence in their families, as well as the association between these types of violence and socio-economic factors.
Methods: Data from a school-based survey, in the County of Sörmland (2023), including 15-18-years-old students in 2023 were used. Witnessing family violence was measured by the following item "Have you experienced that an adult in your family has... 1) threatened to use violence against someone else in your family? 2) used abusive words, oppression, or been dominant or controlling against someone else in your family? 3) used physical violence against someone else in your family, such as hitting, pushing, kicking, or sexual violence". Parental work status, the child's living conditions and economic stress were used as socio-economic factors. Data were analysed by descriptive methods and logistic regressions.
Results: This study included 3 407 adolescents among which 19% had witnessed any type of family violence. The most prevalent type was witnessing abusive words, (17%), followed by physical/sexual violence (10%) and threats to use violence (9%). Witnessing any type of family violence was associated with all socio-economic variables in univariate analyses, the strongest association was found for having economic stress ($OR = 3.30$; 95% CI 2.72-4.01), in comparison to not having economic stress. Further adjustments for gender, grade, ethnicity, parental work status and living with both parents attenuated the association, $OR = 2.50$ (95% CI 2.03-2.07).
Conclusions: Two of ten adolescents have witnessed any type of family violence. These adolescents often belonged to families with low socioeconomic status making them vulnerable.
Key messages:
- In this school-based study, 19 % of adolescents had witnessed any type family violence. Having witnessed abusive words was the most prevalent type of family violence.
- There is as strong association between witnessing family violence hand having economic stress among adolescents. These adolescents need to be noticed in their particularly vulnerable situation.

Abstract citation ID: ckae144.395
Impact of loneliness and social support on leisure physical activity in adolescents in Luxembourg

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Background: Healthy lifestyle includes a regular practice of vigorous physical activity in adolescents' leisure time. Engaging in physical activity (PA) depends on individual, social and environmental factors. Previous literature has showed that social support and loneliness can influence the practice of PA. The study aims to analyse the relation between PA during leisure time and social support and loneliness among adolescents in Luxembourg.

Methods: The study includes 7049 adolescents from the Health Behaviours in School-aged Children (HBSC) Luxembourg 2022 survey. PA in leisure time was categorised according to WHO recommendations for vigorous physical activity. Perceived social support (friends, family, teacher, and classmate) was dichotomised in high support and in low/medium and loneliness in feel often lonely and not feel often lonely. It was executed a binomial logistic regression to analyse the PA levels in leisure time by loneliness and social support, controlling by age, migration background, perceived wealth, and family structure, split by gender.

Results: In Luxembourg, boys who perceived high support from most of the sources and didn't feel often lonely had higher chances to reach WHO recommendations for PA during leisure time (e.g. loneliness: OR = 1.38, CI95%[1.11-1.74]; family support: OR = 1.31, CI 95%[1.10-1.56]), except for teacher support (OR = 0.79, CI95% [0.67-0.93]). In contrast, girls who only perceived high support from classmates (OR = 1.21, CI95%[1.05-1.4]) and teachers (OR = 1.19, CI95%[1.01-1.38]) had higher chances to be physically active.

Conclusions: This is the first study to investigate the impact of social support and loneliness among adolescents in Luxembourg. Future research should investigate social-related barriers and facilitators of PA during leisure time.

Key messages:

- Understanding adolescents social support can guide towards effective strategies that promote physical activity during leisure time.
- Boys benefit from several social support sources, while girls thrive with encouragement from classmates and teachers to stay physically active in leisure time.

Abstract citation ID: ckae144.396
Association of healthy lifestyle on overweight and obesity among adolescents in Luxembourg

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Background: Adolescent overweight and obesity are significant public health challenges. Understanding the impact of healthy lifestyle behaviours is crucial for effective intervention strategies. The aim of this study is to analyse the association between healthy lifestyle behaviours with overweight and obesity among adolescents in Luxembourg.

Methods: The study was based on the HBSC Luxembourg 2022 survey and includes 8415 adolescents aged 11 to 18 years. Adolescents self-reported the frequency of fruit and vegetable consumption, physical activity, height, and body mass. Eating and physical activity behaviours were categorized based on WHO recommendations. Body Mass Index categorization followed International Obesity Task Force criteria. Binomial logistic regression of obesity and overweight with the interaction between healthy diet and physical activity was performed, controlling for age, gender, family affluence, migration background, and family structure.

Results: The results indicated a significant protective effect of healthy lifestyle behaviours against overweight and obesity. For overweight, adolescents engaging in either fruit and vegetable consumption (OR = 0.829, 95% CI [0.697-0.986]) or physical activity (OR = 0.719, 95% CI [0.566-0.913]) showed reduced odds compared to those with unhealthy behaviours. For obesity, similar associations were observed. Adolescents engaging in physical activity (OR = 0.407, 95% CI [0.235-0.705]) showed reduced odds compared to those with unhealthy behaviours. Combining both behaviours resulted in the lowest risk of obesity (OR = 0.366, 95% CI [0.177-0.760]) and overweight (OR = 0.473, 95% CI [0.340-0.658]).

Conclusions: Promoting health eating and physical activity behaviours are important strategies for preventing overweight and obesity in youth in Luxembourg. Implementing targeted interventions aimed to promote these behaviours could mitigate the burden of overweight and obesity in this population.

Key messages:

- Healthy lifestyle matters: Fruit and vegetables consumption or regular physical activity significantly reduce the risk of overweight and obesity among adolescents.
- Combining behaviours counts: Concurrent engagement in both fruit and vegetables consumption and physical activity offers the greatest protection against overweight and obesity.

Abstract citation ID: ckae144.397
Tradition to Concern: Health Risks and Nicotine Dependence of Midwakh Use in Young Males in the UAE

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Background: Midwakh smoking, a traditional practice, poses a growing public health concern in the Middle East region. Despite global efforts to curb tobacco use, smoking rates, particularly among young men, remain high. This study explores nicotine dependency, assesses acute health effects, and measures carbon monoxide levels among midwakh smokers.

Methods: A quasi-experimental before-and-after study involved 103 young male midwakh smokers in the UAE. Data collection included surveys featuring the Hooked-on Nicotine checklist (HONC), clinical measurements, and pre/post-smoking saliva samples. Statistical analyses, including descriptive, paired samples, correlation, and regression, assessed associations between midwakh smoking, dependency, and health outcomes.

Results: Preliminary findings found that 33% of midwakh smokers were under 21 years, 68% had below undergrad education, and household incomes over 15,000 AED monthly. Smoking initiation was as early as 10 years. Smoking habits revealed 37% exclusive midwakh, 54% midwakh with e-cigarettes, 21% with shisha, and 34% with cigarettes. Post-smoking clinical measurements showed significant increases in blood pressure, heart, pulse and respiratory rates, and carbon monoxide levels ($p \leq 0.05$). Significant differences in pre- (134.6 ng/ml) and post-smoking (154.4 ng/ml) saliva cotinine levels ($p \leq 0.05$) were observed. Regression analysis identified predictors of nicotine dependency: initiation age (β= -.315; -0.579,0.0512), household income ($\beta = 1.221$; 0.297,2.146), multiple tobacco use ($\beta = 0.576$; 0.129,1.024), quit attempts ($\beta = 1.555$; 0.519,2.590) and smoking risk perception ($\beta = 3.420$; 1.950,4.890)

Conclusions: Midwakh smoking adversely affects clinical measurements, with early start correlating with higher nicotine dependency, worsened by using multiple tobacco products. Urgent action is needed, including tailored prevention campaigns and support systems to aid youth cessation and raise awareness of midwakh smoking's harmful effects.

Key messages:

- Midwakh smoking is deeply ingrained in UAE tradition but poses significant adverse health outcomes and nicotine dependency.
- There is a need to establish specialized cessation programs offering support and resources to midwakh users, addressing both the health consequences and addictive nature of midwakh.

Abstract citation ID: ckae144.398
Early life social predictors of longitudinal relations between childhood BMI and overeating

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Introduction: The progression of obesity is a continuous process involving a complex system of genetic, environmental, and behavioural factors. Socioeconomic disadvantage as well as psychological distress may lead to overeating, subsequently associated with increased energy intake and weight gain. Recent evidence indicated that the association between childhood obesity and overeating might be bidirectional. Therefore, this study aimed to longitudinally investigate the directionality of the association between childhood BMI and overeating and to identify antecedent early childhood predictors.

Methods: The study sample included 5,777 children from the European Longitudinal Study of Parents and Children (ELSPAC), collected between 18 months and 11 years of child age. The outcomes were child BMI and overeating. Predictors included maternal BMI, maternal education, single-parent households, financial difficulties, and adverse childhood experiences (ACEs). The random intercept cross-lagged panel model (RI-CLPM) was applied.

Results: The results showed temporal stability in the development of overeating and BMI, with a bidirectional relationship that strengthened over time. The child's BMI was predicted by maternal BMI ($\beta = 0.37$, $p < 0.001$). The child's overeating was predicted by maternal BMI ($\beta = 0.13$, $p < 0.001$), but a stronger effect was found for ACEs ($\beta = 0.24$, $p < 0.001$). ACEs mediated the impact of maternal education, financial difficulties, and single parenthood on overeating with indirect effects of $\beta = -0.01$ ($p = 0.005$), $\beta = 0.04$, ($p < 0.001$), and $\beta = 0.07$ ($p < 0.001$), respectively.

Conclusions: We observed stable bidirectional longitudinal effects, with a stronger association from BMI to overeating. The results suggested two main pathways: one linked to maternal BMI and early childhood BMI increase followed by overeating, and the other associated with ACEs mediating the effect of early childhood socioeconomic factors on overeating, leading to gradual BMI gain. #NGEU

Key messages:

- The study revealed a stable bidirectional association between childhood BMI and overeating, with a stronger association from BMI to overeating.
- There are two potential pathways in childhood obesity development, one involving maternal BMI, and the second associated with social disadvantage and ACEs.

6.O. Scientific session: The unmet needs of LGBTQ+ persons and communities: perspectives from across the globe

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Lesbian, gay, bisexual, transgender and queer persons suffer from rising anti-LGBTQ+ stigma. Such stigma entails laws that punish being LGBTQ+ such as in Uganda, Russia, Ghana, Iran, etc. The stigmatizing contexts have numerous health-harming effects, including perpetrating mental health harms and creating environments that hamper access & quality of services. Rising global anti-LGBTQ+ stigma and the adverse health impacts require more data on the topic to adequately dispel LGBTQ+ mis- and dis-information. This workshop will give examples of studies that examine LGBTQ+ disparities and inequities in health across different social and cultural contexts, drawing from research in Czechia, Kenya, Rwanda, and Sweden. The workshop will first outline the relevant social and cultural contexts of LGBTQ+ persons in various countries, such as attitudes, beliefs, and values. The workshop will then discuss LGBTQ+ inequities and disparities that arise from health-harming attitudes, beliefs, and values. Afterward, the workshop will discuss public health-oriented solutions & policy directions, including using data for interpretation and advocacy labs and efforts, enhancing data collection, improving knowledge and attitudes, and other implications for public health practice and policy. The workshop will open a session that will situate LGBTQ+ public health for the audience. The first study will be by Andreas Malm from the Karolinska Institute, Sweden, examining LGBTQ+ differences in mental health and treatment disparities in Sweden. This will be followed by Luis Roxo from the Karolinska Institute and Universidade NOVA de Lisboa, Portugal, discussing stressors and symptoms that shape inequalities in mental health service use. Then, Michal Pitonák from the National Institute of Mental Health, Czechia, will present treatment and outcome gaps in the mental health of LGBTQ+ persons in Czechia. Lastly, Emmy Kageha Igonya from the African Population Health Research Center, Kenya, will showcase work from a mixed-methods study with LGBTQ+ people in Rwanda and Kenya, examining access to and use of healthcare services. After the individual presentations, which will each last 7-8 minutes, the audience will be invited to a moderated 20-25-minute open discussion on the papers & how the findings can help inform public health practice & policy to address the unmet needs of LGBTQ+ populations globally. The continuing rise in anti-LGBTQ+ sentiments across the globe is problematic from a public health standpoint, given the severe health-harming effects across numerous physical and mental health states and domains. Our workshop aims to facilitate a conversation on understanding the structural situations that shape LGBTQ+ health and identifying strategies to reduce gaps in services and needs that disproportionately burden LGBTQ+ persons.

Key messages:

- LGBTQ+ people across the globe are experiencing rising stigma and discrimination.
- Rising anti-LGBTQ+ backlash disproportionately harms LGBTQ+ physical and mental health and creates gaps in care.

Abstract citation ID: ckae144.400
Mental health symptoms and treatment for common mental disorders among sexual minority immigrants in Sweden – a national population-based study

Andreas Malm

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Background: Although sexual minorities are at greater risk of poor mental health, less is known about mental health among dual minority statuses individuals based on sexual orientation and migration status. The current study investigated disparities in mental health symptoms and psychiatric treatment for common mental disorders among Swedish-born and immigrant heterosexuals and sexual minorities. It further explored the role played by interpersonal and social stress in explaining these disparities.

Methods: Participants (n = 104,652) were drawn from the Swedish Public Health Survey in 2018. Six groups were compared based on sexual orientation (heterosexual, sexual minority) and migration status (Swedish-born, European-born, non-European). The survey was complemented with information on psychiatric treatment from nationwide registries. Odds ratios were calculated using logistic regression.

Results: Compared to Swedish-born heterosexuals, Swedish-born and non-European sexual minorities had the greatest risk of mental health symptoms (odds ratios [OR]=2.20, 95% confidence intervals [CI]: 1.89-2.57, and OR = 2.10, 95% CI 1.34-3.29, respectively). Swedish-born sexual minorities had greater risk of psychiatric treatment (OR = 2.58, 95% CI 2.20-3.01), while non-European heterosexuals had lower risk (OR = 0.61, 95% CI 0.52-0.72). No differences in psychiatric treatment was found for non-European sexual minorities (OR = 0.82, 95% CI 0.46-1.48). Interpersonal and social stress factors mediated the associations between migration status and mental health symptoms and psychiatric treatment differently depending on sexual orientation.

Conclusions: No excess risk of mental health symptoms was found among sexual minority immigrants compared to their Swedish-born counterparts.

Key message:

- Non-European sexual minority immigrants' risk of mental health symptoms was equally high to the risk among Swedish-born sexual minorities, but they received less psychiatric treatment.

Abstract citation ID: ckae144.401
Stressors and symptoms explaining sexual orientation inequalities in mental health services usage: A longitudinal study with young adults

Luis Roxo

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Background: Sexual minority (i.e., lesbian, gay, and bisexual [LGB], and other non-heterosexual) individuals are more likely to use mental health services than heterosexuals; however, evidence is scarce about factors contributing to this difference.

Methods: This study uses longitudinal data from a population-based sample of young adults (aged 18- 36) in Sweden (N = 1,137). We use mediation analysis to examine whether common mental health symptoms (i.e., depressive, anxiety and social anxiety symptoms, suicidality, and alcohol use) mediate sexual orientation differences in mental health services use; and to understand whether adding general stressors (i.e., low social support, loneliness, and perceived stress) to these models increases the total effect explained. Afterwards, we use logistic regression models to understand how minority-specific stressors (e.g., family reaction and dimensions of sexual minority identity) predict mental health service use among sexual minority individuals (N = 498), adjusting for common mental health symptoms.

Results: Common mental health symptoms only partially mediate the associations and the direct effect for sexual orientation remain significant ($\beta = 0.11$, $p < 0.01$). Adding general stressors to these models only slightly increase the total effect explained and the direct effect remained significant ($\beta = 0.11$, $p < 0.01$). Among sexual minority individuals, after adjusting for common mental health symptoms, a difficult process of coming out ($\beta = 0.12$, $p < 0.05$) and negative family reaction towards one's sexual orientation ($\beta = 0.15$, $p < 0.05$) predicted use of mental health services.

Conclusions: Overall, these results show that minority-specific stressors contribute to help-seeking behaviours among sexual minority individuals, regardless of psychiatric morbidity, highlighting the potential role of mental health services empowering sexual minority individuals to cope with minority stress.

Abstract citation ID: ckae144.402
Investigating the Mental Health Outcomes and Treatment Gap Among Sexual Minorities in Czechia: A National Cross-Sectional Study

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Aims: This study aims to (1) estimate the prevalence and relative risk of mental disorders, (2) assess the severity of mental health symptoms, and (3) investigate the treatment gap for mental disorders within SM.

Methods: Data from a cross-sectional, nationally representative survey of 3,063 Czech adults (response rate = 58.6%) were utilized. The Mini-International Neuropsychiatric Interview was employed to screen for mental disorders. In those identified with mental disorders, help-seeking behaviors over the past 12 months were examined. The severity of mental health symptoms was evaluated using the 9-item Patient Health Questionnaire and the 7-item Generalized Anxiety Disorder scale. Prevalence rates of mental disorders associated treatment gaps, and relative risks of mental disorders were calculated.

Results: The prevalence of mental disorders among heterosexual, gay or lesbian, bisexual, and more sexually diverse individuals was 18.9% (17.4-20.3), 52.3% (36.9-67.6), 33.3% (19.5-47.2), and 25.9% (13.9-38), respectively. Suicidal thoughts and behaviors were reported in 5.7% (4.9-6.6) of heterosexual individuals compared with 25.0% (11.7-38.3) in gay or lesbian, 22.9% (10.6-35.3) in bisexual, and 11.1% (2.5-19.8) in more sexually diverse individuals. After adjusting for confounders, gay or lesbian individuals demonstrated an increased risk of having at least one current mental disorder compared with heterosexual people (OR = 3.5 95% CI(1.8-6.8)).

Bisexual and more sexually diverse individuals demonstrated risks consistent with a null effect. No substantial differences in treatment gap were detected between heterosexuals and SM who scored positively for at least one current mental disorder.

Conclusions: The findings underscore the urgent need for systemic changes to improve the mental health outcomes of Czech SM. Addressing structural stigma and ensuring sensitive care are imperative to mitigate the health disparities faced by Czech SM.

Abstract citation ID: ckae144.403

'We do not include tests and treatment for those [STI] conditions': the trouble in navigating access and care for STIs among gay, bisexual men and transgender and other MSM in Kenya and Rwanda

Emmy Kageha Igonya

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Background: Lesbian, gay, bisexual men, and transgender persons (LGBT) in Kenya and Rwanda have a hard time accessing healthcare, in particular sexual health screening. We used a social norms and values framework to examine determinants of access to healthcare, with specific attention to sexual healthcare.

Methods: We draw on cross-sectional mixed methods research in Kenya and Rwanda that examined the lived experiences of sexual and gender minorities in access to health services. A cross-sectional quantitative survey in Rwanda ($n = 499$) and Kenya ($n = 1,550$) was conducted with LGBT people. We conducted key informant interviews ($n = 81$), in-depth interviews ($n = 48$), digital storytelling ($n = 3$), and focus group discussions ($n = 30$). We used a mixed-methods thematic and content analysis to integrate quantitative and qualitative findings.

Findings: Accessibility and quality of care were the main barriers to healthcare services. The results indicate widespread discrimination and stigma toward LGBT people in service provision. Approximately half of the survey participants, 47%, reported challenges accessing health services, and 25% indicated they experienced discrimination in healthcare. Qualitative results link low quality of care to stigma and discrimination. "Mostly at the hospitals, there are times people take too much time discussing who we are instead of giving us the treatment we seek, and send us to mental health to first deal with our sexuality issues since they think it is a 'sickness.'" (Focus group, Muhanga, Rwanda). Our study highlights challenges in navigating sexual healthcare in government, faith-based, and donor-funded health facilities.

Conclusions: Access to healthcare services, particularly sexual health screening and prevention, is a growing issue for LGBT people in Kenya and Rwanda. Stigma acts as a significant barrier to high-quality healthcare. Sensitivity training and educational opportunities for healthcare professionals are urgently needed to address stigma.

6.P. Scientific session: Economic evaluation of health impacts for better decision choices

Abstract citation ID: ckae144.404

Organised by: EUPHA-HIA, -FS, -ECO, -PHPP, University of Bath (UK), RIVM (Netherlands)
Chair persons: Piedad Martin-Olmedo (EUPHA-HIA), Henk Hilderink (EUPHA-FS)
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The strategy of Health in All Policies (HiAP) pursues to analyse the wider determinants of health affected by the decision-making process of traditionally non-health sectors, seeking to enhance population health benefits while avoiding health inequalities. This usually involves the use of health impact assessment (HIA) or health lens analysis to any policy, program, plan or project (PPPP), preferably prior to its implementation. On the other hand, decision-makers from a wide range of public and private sectors also demand a better insight of the meaning of the health impacts quantified under HIA. Assuming the (ubiquitous) situation of limited resources and budgets, decisions need to be based on cost effectiveness criteria and, whenever possible, direct and indirect health costs should be part of the impact assessment. Economic appraisal attempts to define whether a proposal makes a net contribution to social welfare, quantifying and valuing changes to individuals' utility from the societal perspective, taking into account the impact of health on the individual, their family, employers, healthcare providers and the state. This approach can incorporate different components of the welfare costs of illness, including direct medical and paid care expenses, indirect lost opportunity costs such as productivity and the value of informal care time, as well as a value that monetises the disutility or pain and suffering associated with disease. The range of methods and estimated benefits can make it challenging to identify a best practice approach.

The present session aims to address certain methodological aspects related to the economic evaluation of health impacts, which still generate some controversy and debate, with particular emphasis on the following topics: • Approaches for synthesizing evidence on health impact pathways and economic evaluation of health impacts for a better decision choice; • Health metrics: influence on the conclusions of economic analysis within HIA; • Sources of metrics used for economic analysis; • Uncertainties inherent to economic valuation of health outcomes: how to deal with it.

Key messages:

- The economic analysis of health impacts can help prioritizing aspects with the greatest impact on population health, facilitating a more effective use of human and economic resources.
- The economic analysis within HIA can improve decision-making but requires careful consideration of health metrics, sourcing of data, and management of uncertainties.

Abstract citation ID: ckae144.405

Cost-benefit analysis: just a step in the HIA process

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The economic analysis within Health Impact Assessments (HIA) is a critical component in informing public policy decisions by assessing the financial implications of health outcomes associated with the different intervention options. Health metrics play a role defining the cost-effectiveness and societal value associated with the interventions. These metrics, quantifying the health impacts, include quality-adjusted life years (QALYs), years of life lost (YLLs) or disability-adjusted life years (DALYs). On another level, such metrics need to be translated into cost-effectiveness and societal value in which other methods play a role, such as the value of statistical life (VSL) or the value of a life year (VOLY). While VSL quantifies the value individuals place on reducing mortality risk, VOLY evaluates the value attributed to extending life expectancy. On another hand, uncertainties related to economic valuation pose challenges to the accuracy and reliability of cost estimates within HIA. These come from several factors, including data quality, methodological differences across studies, and subjective judgments involved in valuing health states. In fact, estimating the economic value of a prevented death involves multifaceted considerations and important assumptions. Additionally, assigning monetary values to non-fatal health outcomes, such as disability or reduced quality of life, involves subjective assessments and value judgments. By selecting appropriate metrics, considering diverse data sources, and addressing methodological steps and uncertainties, HIA practitioners can improve the utility of economic assessments, facilitating evidence-based decision-making in public health policy and resource allocation. This work was supported by National Funds through FCT - Fundação para a Ciência e a Tecnologia,I.P., within CINTESIS, R&D Unit (reference UIDP/4255/2020).

Abstract citation ID: ckae144.406
Social Cost Benefit Analysis – a powerful tool for decision making

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Health Impact Assessment provides policy makers with important information about health effects of programs, policies, plans or projects (PPPP). However, PPPP may have many more effects, both positive and negative, direct and indirect, intended and unintended, immediate and in the far future. Ex-ante insights in all these effects may help policy makers to optimize decision-making, but also to communicate realistically to all stakeholders about the PPPP. Weighing effects that may be very different in scale and reach different stakeholders in different ways is inevitable. One powerful tool to help decision makers in this task is Social Cost Benefit Analysis (SCBA). SCBA requires to specify and quantify all effects of PPPP over a specified time horizon. It is also necessary to specify a base-case scenario, i.e. how the problem under study would develop without further investments in PPPP. All effects of PPPP need to be quantified in monetary terms, these can be financial, e.g. healthcare costs or costs of productivity losses, or non-financial, for instance by placing a value of €50,000 on a QALY gained or a DALY averted or a value of €3,5 million on a lost life. PPPP with positive net monetary value are considered welfare enhancing, while PPPP with a negative monetary value do not add to welfare in society. In the Netherlands, government asks any bigger PPPP to be quantified with SCBA methodology. Guidance on unit values for non-monetary effects is given. This contribution will elaborate on results of the SCBA method for different alcohol policy measures, such as increase in excise taxes, minimum unit pricing, closure of vending spots and a total marketing ban. SCBA is a powerful tool to inform policy makers and assist in their decision making processes. It is also a labour and data intensive process that should only be used for larger PPPP investments and not for local decision making.

Abstract citation ID: ckae144.407
Informing healthy urban policy making through quantitative health impact appraisal – a co-designed approach

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Quantitative health impact appraisal for land use development is currently challenging. We show how a co-designed process between urban decision makers and academics can help to improve ways of deriving evidence for creating healthier cities. The Health Appraisal of Urban Systems (HAUS) economic valuation model was developed with local partners to inform a strategic framework for a UK urban regeneration site. HAUS is a comparative risk assessment model which allows the user to understand mechanisms for change through applying an impact-pathway approach to quantify changes in health. It is informed by systematic reviews of epidemiology and societal costs of 85 individual health end-points. Scenarios combined a range of characteristics including air and noise pollution, green space, crime, walkability, food environment and transport. Health outcomes include morbidity and mortality impacts. Results show the value of a holistic approach to comparing health risks in designing urban living. By monetising outcomes, practitioners were able to understand the relative magnitude of risk within a specific area and compare alternate urban development scenarios. Compared to an unmanaged development, the Strategic Framework can mitigate health risks by improving safety and quality of the public realm and add health benefits by encouraging activity and active commuting. Flood risks are managed, and green infrastructure improved and extended. These benefits extend to communities outside the site boundaries. Over 25 years, the PV benefits are £60 - 80 million in averted health costs. Strategic planning for urban areas can unlock the potential of the public realm to tackle health inequalities and mitigate serious risks to public health. Timely access to quantitative information on health can help inform understanding of unhealthy environments, strengthen arguments for good design, reinforce capacity of planning teams and so improve the quality of urban developments.

Speakers/Panelists: Odile Mekel
NRW Centre for Health, Bochum, Germany

6.Q. Round table: Artificial Intelligence in healthcare: navigating ethically with equity and workforce empowerment

Abstract citation ID: ckae144.408

Organised by: EUPHA-HCW, -ETH, -MIG, WHO Collaborating Center for Health Workforce Policies and Planning, Faculty of Public Health (UK), Public Health Ethics and Law Network
Chair persons: Abi Sriharan (Canada), Ellen Kuhlmann (EUPHA-HCW)
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Background: Artificial Intelligence (AI) is emerging as a pivotal technology with vast promises for healthcare. However, integrating AI into clinical and public health settings must be cautiously approached to ensure that it does not inadvertently exacerbate existing health system problems. The healthcare workers, already under severe stress, could view AI as a threat to job security rather than as a support mechanism. Moreover, past experiences with digital transformations, such as Electronic Health Records, have shown that technological integration can sometimes increase rather than decrease the burden on healthcare workers, leading to burnout and dissatisfaction, and thus worsening the healthcare workforce crisis. Furthermore, equity and ethical considerations are paramount in the deployment of AI in healthcare. Data privacy, patient consent, and algorithmic bias must be addressed to ensure that AI applications are designed to support and enhance human decision-making that is sensitive to the social determinants of health and accountable to equity and social inclusion, to the needs and rights of the healthcare workforce, and the dignity of the patients and populations. While AI presents significant opportunities for health systems and healthcare workers, there is a lack of knowledge, evidence-based policies, and ethical frameworks that support equitable and human-centred approaches to AI implementation.

Objectives: This round table workshop aligns three major public health challenges: the integration of AI in health systems, the global healthcare workforce crisis, and the improvement of equity and equality. It critically explores capacity building for AI, equity in AI implementation, and regulatory measures for ethical and responsible AI deployment, addressing the following major questions: What are the critical impacts of AI on the healthcare workforce? How can the healthcare workforce be effectively upskilled and supported to adapt to the changes brought by AI technologies? What regulatory frameworks and governance models are necessary to ensure AI's safe and ethical implementation in healthcare, that is also sensitive to equity, gender equality and the needs of minority groups? Finally, what actionable steps and leadership can public health take to implement AI technologies while addressing the healthcare workforce needs, equity issues, and ethical guidelines? The panellists will illuminate these questions from different disciplinary approaches, helping us to disentangle complexity and to build capacity for evidence-based and socially inclusive AI policies. The workshop contributes to better understand the risks and benefits of AI. It seeks to advance knowledge exchange of good practice experiences and effective implementation.

Key messages:

- The effects of AI on the healthcare workforce must be monitored and strategies adapted to mitigate the healthcare workforce crisis and to upskill and empower healthcare workers.
- There is a need for human-centred and ethically responsive AI implementation and governance measures that support equity, gender equality, and diversity in healthcare settings.

Speakers/Panelists:
Abi Sriharan
Schulich School of Business York University, York, Canada
Kasia Czabanowska
Maastricht University, Maastricht, Netherlands
Bernadette Kumar
Migration Health Unit, Norwegian Institute of Public Health, **Oslo, Norway**
Marius-Ionuț Ungureanu
Babeș-Bolyai University, Cluj-Napoca, Romania
Farhang Tahzib
Faculty of Public Health, Haywards heath, UK

7.A. Skills building seminar: Is Behavioural Science Relevant for Public Health? A Quintuple Helix Lens

Abstract citation ID: ckae144.409

Organised by: EUPHA, WHO/Europe
Chair persons: Iveta Nagyova (EUPHA), Susan Michie (UK)
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Background: On 29 May 2023, the World Health Assembly adopted the first-ever global Behavioural Sciences for Better Health resolution (WHA76.7). This resolution requests the World Health Organization (WHO) to mainstream and support behavioural sciences in public health across the WHO and within Member States; including enhancing awareness, knowledge, and evidence and providing technical assistance, normative guidance, and capacity-building. But is behavioural science really relevant for public health? Why and how it can help us to improve people's health?

Rationale: This workshop seeks to delve into the application of behavioural science in public health within the context of the quintuple helix framework - academia, industry, government, civil society, and the broader environment. Through collaborating across sectors, stakeholders can leverage behavioural science to design more effective strategies for promoting positive health behaviour change, preventing diseases, and addressing public health challenges. This workshop will feature discussions and case studies in various public health domains.

Aim: The main aim of this skills-building seminar is to explore the synergies between behavioural science and the quintuple helix, examining how these collaborations can drive innovation, enhance policy implementation, and foster sustainable health outcomes. By critically examining these intersections, we seek to stimulate dialogue, foster collaborations, and inspire innovative approaches for addressing complex health challenges in our society.

Workshop structure: This workshop will consist of three parts:

- It will start with a short scene-setting presentation by Iveta Nagyova, EUPHA president, highlighting the innovation potential of behavioural science to improve people's health (10 mins).
- In the second part (30 mins), the panellists will discuss concrete examples of interconnections of behavioural science and public health within the quintuple helix framework. 1. Susan Michie will share her experience of interconnections between academia and government as a member of the UK SAGE - Scientific Advisory Group for Emergencies. 2. Simon Bacon will discuss the behavioural lens applied to the commercial determinant of health. 3. Tiina Likki will share WHO/Europe's experience with developing and implementing the European regional action framework for behavioural and cultural insights for health, 2022-2027, 4. Kim Lavoie will speak about community involvement and social innovation within the context of more efficient healthcare systems. 5. Stefano Capalongo will show us examples of salutogenic design and architecture, applying neurobiobehavioural mechanisms.
- The third part (20 mins) will be dedicated to a facilitated discussion with the audience to explore attendees' opinions regarding the challenges and opportunities of applying behavioural sciences to improve people's health and well-being, using the quintuple helix framework.

Key messages:

- Integrating behavioural science within the quintuple helix framework cultivates partnerships advancing effective, inclusive and lasting public health initiatives.
- Fostering cross-sector collaboration establishes an ecosystem driving innovative, equitable and sustainable solutions in public health.

Speakers/Panelists:
Susan Michie
University College London, London, UK
Simon Bacon
Concordia University, Montréal, Canada
Kim Lavoie
UQAM, Department of Psychology, Montreal, Canada
Tiina Likki
WHO/Europe, Hellerup, Denmark
Stefano Capolongo
Politecnico di Milano, Milan, Italy

7.B. Pitch presentations: Applying AI and Machine Learning

Abstract citation ID: ckae144.410
Leveraging ChatGPT for systematic reviews: how accurate is it for screening by title and abstract?

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Background: Systematic reviews are at the top of the evidence pyramid, but the whole process can be labor-intensive, especially in the screening by title and abstract of retrieved records. Large language models (LLMs), such as ChatGPT, are proficient in natural language processing tasks and offer potential for accelerating this phase. The aim of this study is to assess ChatGPT's performance in screening records for an already published systematic review (doi: 10.1080/21645515.2023.2300848).
Methods: 1601 records with title and abstract were evaluated with ChatGPT 4, using two different prompts to instruct the model: one asking the model to classify each record as included or excluded (Prompt A), and one asking the model to rate each record from 1 to 5 based on inclusion confidence (Prompt B), to compute the model's performance metrics.
Results: The review included 64 records after title and abstract screening, of which 18 after full text screening. Using records included by title and abstract as a reference, prompt B with a rating cut-off of 3 provided 82% sensitivity, 88% specificity and 99% negative predictive value (NPV). With articles included by full text as a reference, 100% sensitivity, 86% specificity, and 100% NPV. An 85% workload saving was reached. Prompts A showed higher workload savings (~93%), high NPVs (~100%) and specificity (~96%), but lower sensitivity (62-72%).
Conclusions: Prompts with a rating cut-off of 3 achieved a better performance, and still relevant workload savings compared to binary classification prompts. These findings can inform prompt-engineering strategies to instruct LLMs and reach both high sensitivity and workload savings.
Key messages:

- Systematic reviews provide evidence synthesis to guide policy and decision-making in healthcare and public health. Such process can be time-consuming, and need for timely evidence is often stringent.
- LLMs can help reduce workload and speed up the title and abstract screening phase of a systematic review, which is considered a major bottleneck in the review process.

Abstract citation ID: ckae144.411
eHealth profile and care coordination of primary care physicians

Stefano Tancredi

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Background: Digital health or eHealth is a vast field encompassing mobile health (mHealth), health information technology, wearable devices, telehealth, and telemedicine, and is changing the practice of medicine. While it holds promise for enhancing care coordination, its adoption is hindered by various barriers, including at the healthcare professional level. We assessed the eHealth profile of primary care physicians and its relationship with care coordination.
Methods: As part of the Commonwealth Fund 2022 IHP survey of primary care physicians, 1114 physicians in Switzerland completed a questionnaire on their digital health use, and care coordination practices. Based on their responses, we built a digital health score, summarizing physicians' use of digital health tools, and a care coordination score. Associations between both scores were assessed using stratified analyses and multiple linear regression.

Results: Among 1114 participants (46% women, mean age 52), 83% used electronic patient records, 96% used teleconsultations for less than 5% of consultations, and 63% never used connected health tools for the monitoring of patients with chronic diseases. A total of 16% allowed for online appointments, 20% for online medical prescriptions, 52% for communicating electronically lists of medications with other healthcare professionals, and 89% the possibility of e-mail or web communications with the patient. The eHealth score was positively associated with the number of weekly working hours, being an internal medicine specialist or practicing physician, the number of full-time equivalents in the practice, and with being in a group practice setting. The higher the eHealth profile score, the higher was the care coordination score.

Conclusions: Physicians' use of digital health tools was positively associated with care coordination. This could underscore the potential benefits of digital health in enhancing collaborative and interprofessional care practices.

Key messages:

- In a large survey of primary care physicians, the use of digital health tools and care coordination were correlated.
- Digital health could enhance collaborative and interprofessional care practices.

Abstract citation ID: ckae144.412

Detecting Unrecognized Dementia Using Deep Learning Methods with Korean National Claims Data

Ji-Woong Nam

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Background: Dementia is one of the leading causes of death in elderly people. In Korea, the government supports dementia screening for people aged 60 and older, but it is not a population-based organized screening program. It is difficult to achieve early diagnosis and early treatment. The objective of this study is to detect unrecognized dementia using Korean National Claims Data for early diagnosis.

Methods: This study used the National Health Insurance Claims data in Korea. The case group is the new dementia visit as an unrecognized group, while the control group was randomly selected from the general population without dementia. The predictors included health utilization, socioeconomic and demographic, procedure codes, diagnostic codes and health screenings data. The health utilization variables included length of stay, the number of outpatient visits, health expenditures and other encounter information. All medical utilization data was aggregated monthly. In the case group, 12 months of data from 6-month or 2-years before the onset of dementia were used. In the control group, 12 months of data from randomly selected time point were included. Transformer, embedding methods, and Time2Vec were used as the deep learning methods. This study included 453,306 incidents of dementia, representing almost all cases reported from 2010 to 2019 in Korea. The control group consisted of 669,873.

Results: After training the deep learning prediction model, the AUC for 6-month dementia prediction on the test dataset was 0.87, and for 2-year dementia prediction, it was 0.76. The most important variables were health utilization variables, especially health expenditures. The health utilization trajectories of the case group were significantly different from those of the control group.

Conclusions: Based on the claims data, we could detect unrecognized dementia case. We can extend the model to other chronic disease such as cancer and stroke, which are significant burden of disease.

Key messages:

- Screening in healthcare facilities or using lab test results would be more accurate, but it would be difficult to apply to a large population due to the cost-effectiveness and timeliness constraints.
- On the other hand, the detection model using the existing claims data would be helpful to to develop cost-effective mass screening program. It can cover the weakness of current screening program.

Abstract citation ID: ckae144.413

Machine Learning powered Patient Records Analysis for Injury Monitoring in Children and Adolescents

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Background: Injuries to children and adolescents are common and are associated with individual suffering and costs. Switzerland lacks data of injuries in children and adolescents. This study investigates the feasibility of utilizing machine learning (ML) methodology to automatically extract relevant data from electronic pediatric patient records needed for monitoring and prevention purposes.

Methods: The feasibility study follows three steps. 1. Utility evaluation of text data from electronic pediatric patient records regarding ML, injury monitoring and prevention requirements in a test-sample. 2. The development of an ML-based approach to extract relevant information based on electronic pediatric patient records ($N = 30'884$) of children treated for injuries at the University Children's Hospital Zurich emergency department between 2018-2022. 3. The performance of the ML methodology is evaluated.

Results: Qualitative and ML expert assessment of the sample showed that the desired data on injuries is contained in the test-sample and necessary requirements are met. Data records differ in detail with severe injuries providing especially rich information records. The international IDB code-tree was proved to be too elaborate and adult-orientated and was adapted. Preliminary data analyses indicate that the number of accidents is highest in the age group from 0 to 4 years (36%). More male (58%) children were treated. Majority of accidents were classified as less severe (73%), few ($<1\%$) as very severe. Further lessons learned, along with more detailed prevalence data on injuries in children and adolescents, will be available by August 2024.

Conclusions: Extraction of injury information from electronic patient record by means of ML may provide valuable information for injury monitoring and prevention, so far missing in Switzerland. Prerequisites for the successful application of ML are digital record access, usable coding-tree, and detailed text input by the emergency departments.

Key messages:

- An ML-based approach has the potential to improve the data basis by extracting valuable accidents information from existing texts of patient records.
- To successfully apply this method, digital record access and detailed text data are needed.

Abstract citation ID: ckae144.414
Preventing type 2 diabetes in Portugal: a novel person-centered digital intervention

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Introduction: Diabetes, particularly type 2 diabetes (T2D), stands as one of the leading noncommunicable diseases worldwide. In Portugal, the prevalence of diabetes has surged, with T2D affecting 14% of adults in 2021. Its repercussions extend beyond individual health, deeply impacting familial, social, and community dynamics, presenting a significant public health challenge globally.

Objectives: The VA|PREVENTION project (https://doi.org/10.54499/2022.02969.PTDC) aims to assess the (cost-) effectiveness and implementation of an innovative person-centered digital intervention to prevent T2D among high-risk adults.

Methodology: A comprehensive approach encompasses the Behavior Change Wheel for intervention design, scalability principles, the WHO guidelines for digital health interventions, co-design, and the ISO framework for usability assessment. Evaluation will be pursued through a type 1 hybrid effectiveness-implementation study (randomized controlled trial), supplemented by qualitative and economic studies.

Results: The web application prototype features Ema, an automated virtual human coach (VHC), educational menus and a dashboard (version 1.0). Co-design included 2 workshops with 11 representatives of end-users and health professionals. Ema uses standardized techniques from an ontology to support behavior change, based on an initial assessment of low-level target behaviors (e.g. walking, fruit consumption, and reducing red meat intake), and barriers to performing these behaviors. Ema communicates in a helpful-cooperative style using a synthetic voice in European Portuguese, with its speech also appearing as subtitles on the interface. Users interact with Ema by pressing buttons or entering data, such as the daily number of steps. Ethics approval was granted for usability assessment with end-users.

Conclusions: The project is expected to yield health, scientific, technological, and policy impacts, powered by an exploitation and sustainability roadmap.

Key messages:
- Innovative type 2 diabetes prevention through a scalable web app with a virtual human coach.
- Comprehensive and robust approach for developing and evaluating the digital behavior change intervention.

Abstract citation ID: ckae144.415
I am frail and my robot is stuck on the corridor: cohabitation of people with frailty and robots

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UK and European policies promote research and innovation for people living with frailty (PLWF), as realistic strategies for independent living. Yet homes are not designed for PLWF or robots, even though robots could support PLWF with activities, i.e., exercise and companionship. Adoption of robots in homes is limited to devices such as automated vacuum cleaners and voice assistants. Robotics aimed at assisting PLWF have been thus far been tested in laboratories and the study of real homes for the co-habitation of robots and older people is often neglected. We draw on expertise from human-robot interaction, built environment, public health and clinical practice to facilitate optimisation of human and robot co-habitation for PLWF. For this, we have reviewed different robots-for-frailty, in terms of, ability to fit and move within homes. We utilised a range of methods and sources of information including meetings with allied health professionals, visited the Robot House and explored the available robots from a fit for purpose perspective, audited five flats for PLWF in Gloucester, England in accordance with the needs of those with frailty, simulated robot's function within the home environment, using persona's for different use case scenarios, trial testing of selected robots in the home environment for comparison with simulation, using knowledge gained to extrapolate this data to estimate suitability for frail individuals in their homes. Most robots currently available would not adequately fit in an independent living accommodation or the smaller ones could be a tripping hazard. The communal areas of independent living would be more realistic for such human robot interactions, rather than the actual households. The research informs the process facilitating the adoption of robots to benefit PLWF both feasible and desired. The research produced a framework that can lead to future research exploring robot and PLWF co-habitation in real home settings.

Key messages:
- The cohabitation of humans and robots currently faces barriers relevant to independent living built-environment spatial restrictions.
- Technologies that support independent living and frailty must develop in spatially-unobtrusive ways.

Abstract citation ID: ckae144.416
Patients' and professionals' experiences with remote care during COVID-19: a qualitative study

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Background: There are concerns about access to remote care for patients from low-income neighborhoods, as their first point of contact in Dutch health care is the general practitioner (GP). Now that general practice professionals have returned to the pre-pandemic ways of health care delivery, this paper looks back at experiences with remote care during COVID-19. It investigates experiences of both patients and general practice professionals with the approachability and appropriateness of remote care, and their satisfaction.

Methods: In this qualitative study, interviews were conducted with 78 patients and 18 GPs, 7 nurse practitioners and 6 mental health professionals from general practices in low-income neighborhoods. Interviews took place by phone or in person in the native language of participants.

Results: Patients from low-income neighborhoods generally found remote care to be approachable, especially telephone consultation. In contrast, video calling was rarely used. Most patients thought remote care was possible for minor ailments but still wanted to see the doctor face-to-face regularly. Patients were generally satisfied with remote care at the time, but this did not necessarily reflect their willingness to continue using it in the future. Moreover, there was lack in consensus among general practice professionals on the appropriateness of remote care for certain physical and mental complaints. Nurse practitioners and mental health professionals had a negative attitude toward remote care.

Conclusions: Integrating remote care in general practices in low-income neighborhoods is not only important in times of crisis, but also for the future where care is becoming increasingly digitalized. To achieve full integration of remote care in general practices, it is important to take opinions and barriers of patients and providers into account. It is also recommended to create guidelines for reaching consensus on the cases in which remote care can be appropriately used.

Key messages:

- Take opinions and barriers regarding remote care of GP patients and providers into account.
- Create guidelines to reach consensus on the appropriate use of remote care for GP patients' health problems.

Abstract citation ID: ckae144.417

Monitoring event data extracted from online news for outbreak detection

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Introduction: Digital disease surveillance (DDS) detects public health events from internet-based data e.g., online news. Event features depicting epidemiological and social characteristics of health events can be extracted from news using the natural language process techniques. However, few studies have leveraged the event features to support anomaly detection in DDS. We aimed to understand the distribution of the event features and explore anomaly detection using the frequency of these features.

Methods: We collected event data from COVID-19-related news collected from October 1 to December 31, 2021, sourced from BioCaster, an infectious-disease-focused DDS system. The predefined event features in BioCaster include disease, pathogen, location and 14 binary features, such as if an event was caused by an unclassified virus. We described the distribution of the features and detected changes in the frequency of event features using a Bayesian online change point detection. We compared the change points with the number of new cases and of genomic samples collected.

Results: We included 170,168 news articles reporting COVID-19 in 155 countries. The event feature indicating that an event was caused by an unclassified virus was identified as positive among 3831 (2.25%) news and 12.91% of news had positive value for the feature indicating cases who had travelled across international borders. The change points detected from these two features were temporally correlated to the emergence of the Omicron variant in corresponding countries, which was more significant in countries with at least 300 news articles. Conversely, event features irrelevant to this case study, e.g., if the cases were military workers, were identified as negative in all news and no change points were detected.

Conclusions: Our study highlights the potential of monitoring the frequency of event features extracted from online news for anomaly detection in DDS, which relies on sufficient news coverage.

Key messages:

- Monitoring the event features extracted from online news provide is useful approach for automatic anomaly detection in digital disease surveillance.
- Increasing media coverage is fundamental for improving the early detection in a digital disease surveillance system.

7.C. Scientific session: Commercial determinants of health: impeding attainment of the Sustainable Development Goals

Abstract citation ID: ckae144.418

Organised by: American University of Beirut (Lebanon), Global Commercial Determinants of Health Action Network
Chair persons: Jihad Makhoul (Lebanon)
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The commercial determinants of health (CDOH) and the adverse impacts they have on health equity globally, have recently emerged as an innovative growing field of research in public health. The corporate playbook comprises a myriad of strategies and tactics that aim to enhance profitability for the commercial actors, while harming health and posing grave risks to planetary health for current and future generations. The literature however, rarely explicitly makes the connection between commercial determinants and the impact they have on the attainment of the Sustainable Development Goals (SDGs) set out by the United Nations in 2015. This workshop aims to use the commercial determinants of health framework as a new approach to draw attention to, and make linkages between, commercial determinants and the challenges they pose to the attainment of several if not all the global SDGs. The four presentations showcase exemplars of the commercial determinants to include the firearms industry, fossil fuel industry, food industry and the tobacco industry focusing on impacts in low- and middle-income countries (LMICs). The workshop will start with a brief overview of the CDOH framework, their corporate playbook, and the progress in SDG attainment globally while presenting the first case on the firearms industry trade impacting armed conflicts that impede SDG 3 (good health and wellbeing), 10 (reduced inequalities), and 16 (peace, justice and strong institutions). The second presentation will discuss how the fossil fuel industry uses greenwashing tactics to conceal its harmful activities thereby compromising SDGs 7 (affordable and clean energy), 11 (sustainable cities and communities), and 13 (climate action). The third presentation will address how the tobacco industry impedes the advancement of SDG 3, 8 (decent work and economic growth), 13 (climate action) and 17 (partnerships for the goals) perpetuated by national system level attributes. The last presentation will showcase how the food industry challenges SDG 3 in its production of ultra-processed foods. The workshop will draw on evidence from LMICs, but is also eye opening for high-income countries of Europe which face industry interference in social and health policymaking progress in SGD attainment. The audience will be engaged in a short warm-up exercise at the start of the workshop through an app for real-time feedback accessed through a QR code on the screen, and will interact with the presenters at the end of the workshop if time permits.

Key messages:
- All commercial actors pose a direct or indirect threat to progress in attaining the SDGs.
- The commercial determinants of health pose are in direct contradiction to the SDG 17 through their corporate playbook.

Abstract citation ID: ckae144.419
The firearms industry challenges progress on SDGs in the Middle East

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Firearms violence is a grave public health issue globally. Relevant public health outcomes include in addition to death, long term disability, and mental health harms. Further adverse effects on public health in armed conflicts include forced displacement, destruction of life supporting infrastructure and natural resources, in addition to adverse outcomes on civilian populations caught up in wars and protracted crises, who bear the burden more if located in low- and middle-income countries (LMICs) of the world. Firearms violence is understudied beyond recent research which focuses on gun violence at an individual level in the context of the Global North, such as in the US, and which rarely addresses the marketing and lobbying strategies of the firearms industry globally to increase sales and consumption of its products. This focus on civilian level gun ownership and violence obscures the influence of the underlying commercial determinant, the firearms industry. Armed conflicts globally are fueled to a great extent by the weapons produced by the firearms industry and their trade, the majority of which are manufactured in industrialized countries, such as the US, UK and China. Based on the above and through the commercial determinants of health framework, this presentation will illustrate using the Middle East as a case, how the firearms industry gravely undermines and threatens the majority of SGDs, 3 (health and well-being), 10 (inequality reduction) and 16 (peace and justice) directly, and several of the others indirectly. Implications for research are also discussed.

Abstract citation ID: ckae144.420
Greenwashing by the fossil fuel industry: impediments to SDGs

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The fossil fuel industry, a major commercial determinant of public and environmental health, constitutes a central challenge to the achievement of the SDGs. Motivated by profit, the industry has contributed to establishing the current global reliance on fossil fuel as the primary energy source and essential raw material in global production. Major oil companies have purposefully hindered the research and transition towards renewable energy. This was achieved through an intricate web of interference and mechanisms that fall under the corporate playbook, such as political interference through lobbying to stagnate carbon emission reduction, influences on carbon pricing policies, and hinderances to environmental protection legislation. These practices known as ‘greenwashing’ have resulted in misinformation, interfered with climate action in an aim to increase demand for their products, to decrease the pressure from society on the industry, and portray a green image to consumers. Using the commercial determinants of health framework and focusing on the Middle East, this presentation will illustrate how fossil fuel companies falsely advertise their products as environmentally friendly, resulting in environmental degradation, and impede the achievement of most SDGs, especially SDG 3 (good health and wellbeing), SDG 7 (affordable and clean energy), and SDG 13 (climate action).

Abstract citation ID: ckae144.421
How Big Tobacco exploits the UN SDGs to advance its own goals

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Globally, the tobacco industry poses a major barrier to the advancement of the Sustainable Development Goals through its influence on SDG 3 (health and well-being), 8 (decent work and economic growth), 13 (climate action), and 17 (partnerships for the goals). Soon after the launch of the SDGs report, Big Tobacco immediately used it to promote its own agenda for development in LMICs such as Lebanon. Using the commercial determinants of health model, this presentation will highlight global and local tobacco monopoly practices, specifically the Lebanese Regie, as a commercial actor and their practices linked to the SDGs to illustrate how the tobacco industry compromises SDG advancement. The presentation will also address some of the system level attributes that serve to perpetuate such practices in Lebanon, allowing for tobacco industry free reign in the country. The presentation will end with suggestions on how LMICs, such as Lebanon, can address the growing industry influence on advances in SDGs and discuss potential measures to curb harmful commercial actor practices.

Abstract citation ID: ckae144.422
The Food industry barrier to achieving the SDGs

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The presentation will use the food industry and the model of the commercial determinants of health to illustrate how commercial actors are a major barrier to progress towards the SDGs. Ultra-processed foods, whose consumption is linked to ill-health, are indeed aggressively marketed - thus directly posing a barrier to progress towards SDG 3 (health and well-being). The industry also uses its corporate political activity to prevent the introduction of measures that limit the consumption of such harmful products and halt harmful practices. SDG 17, which promotes partnerships for the goals, is in direct contradiction with these realities. The presentation will also discuss why the current political-economic system needs to be reformed. The presentation will end with a discussion on solutions, including pitfalls if we are to address the commercial determinants of health for a better food system.

7.D. Scientific session: Digital health divide in access, use, and effectiveness: Examples from three countries

Abstract citation ID: ckae144.423

Organised by: Leibniz ScienceCampus Digital Public Health Bremen (Germany)
Chair persons: Saskia Muellmann (Germany), Chungwan Lo (Germany)
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The increasing digitalisation of the healthcare system opens up a wide range of opportunities but also poses challenges in reducing inequalities due to unequal technological access as well as social and demographic differences of populations. This so-called digital divide is the opposite of digital inclusion, defined by the United Nations as “equitable, meaningful, and safe access to use, lead, and design of digital technologies, services, and associated opportunities for everyone, everywhere”. Indeed, digitalisation is a global phenomenon that permeates all levels of determinants of health inequities, leading to several populations being more disadvantaged. Age, gender, education, and economic status are significant factors amplifying the digital divide’s impact, with older individuals, women, less educated individuals, and economically deprived populations bearing disproportionate effects. Prior literature suggests three levels of digital divide: 1) access to internet and digital technology, 2) individual cognitive and technical competencies in utilizing digital tools, and 3) effectiveness or the optimal functionality and reach of digital technologies. Although there is less consensus with regards to the scope of the divide in the health sector, the three levels are the common reference. Nonetheless, this lack of agreement resulted in existing literature to be concentrated around digital health literacy, or the cognitive and technical abilities to use digital technologies. In addition, while tools such as the Global Digital Health Monitor are valuable to track, monitor, and assess the enabling environment for digital health worldwide, it does not capture the lived experience of the population, including the disadvantaged population groups. This workshop aims to 1) generate discussion on digital health divide and how it can be operationalized and 2) reflect on potential actions to counteract these injustices. Case studies from Germany, Indonesia and Argentina will be presented to diversely contextualize the inequities in digital health and assess plausible interventions. The workshop will be divided into four parts. First, an introduction to the digital health divide will be presented as well as its public health relevance (10 minutes). Second, researchers representing three countries (i.e., Germany, Indonesia, and Argentina) will present digital health divide case studies within their context of expertise (15 minutes). Third, a case-based discussion will be conducted with participants. Participants will be allocated into groups based on the three levels of the digital health divide (i.e., access, use, and effectiveness) and work on recommendations to best operationalize and narrow the digital health divide (25 minutes). Finally, the workshop will conclude with a wrap-up of the group discussion results (10 minutes).

Key messages:

- The digital health divide affects all regions, regardless of income levels. Narrowing the gap is crucial to reduce health inequity and achieve universal health coverage.
- By clearly defining the scope and operationalization of the digital health divide, its measurability and usefulness to inform health policies and programs to address this issue can be enhanced.

Abstract citation ID: ckae144.424
Introduction to the digital health divide

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This presentation will introduce the concept of digital health divide. It refers to inequalities in accessing and using digital technologies, leading to digital exclusion. Digital inclusion is defined by the United Nations as “equitable, meaningful, and safe access to use, lead, and design of digital technologies, services, and associated opportunities for everyone, everywhere”. Indeed, digitalisation is a worldwide phenomenon that permeates all levels of determinants of health inequities, leading to several populations being more adversely affected. Age, gender, education, and economic status are significant determinants amplifying the digital divide’s impact, with older individuals, women, less educated individuals, and economically disadvantaged populations bearing disproportionate effects. The relationship between the digital divide and health leading to the digital health divide can be direct and indirect. Here, access to the latest advancements in health technologies used along the health span (eHealth, mHealth) - from health prevention to patient care - can directly influence the user’s health. However, the lack of access to or use of existing technologies can also indirectly affect their well-being. A globally informative example of this indirect association is the lack of internet access in rural areas during the hard COVID-19 lockdowns, leading to the loss of a school year for many pupils. Indeed, school attendance and attainment are associated with better physical and mental health. Currently, there is a lack of operationalisation of the digital health divide, making it difficult to measure it accurately. The absence of a standardised evaluation and therefore evidence-based information hinders governments and organizations’ efforts to effectively address digital health divide.

Abstract citation ID: ckae144.425
Digital divide in access and use of digital health technologies: what do we know from Germany?

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Even though Germany is an industrialised country, health inequalities exist between individuals or population groups due to unequal access to scarce social resources such as money or knowledge. This case study illustrates the extent of the digital divide in access and use of digital health technologies. Data from the Liter@te study, in which 96 adults aged 18-64 years with low reading and writing skills living in Germany were asked about their digital health technology use and their digital health literacy, were compared with two parallel conducted population surveys in Germany (i.e., nationwide telephone survey on digitalisation and health with 1020 internet users aged 18 years and above, online survey on digitalisation in health care with 1839 adults aged 18-80 years insured at a statutory health insurance company). Adults with low reading and writing skills used digital devices in the health context such as computers (23% vs. 71%) or activity trackers (21% vs. 35%) less frequently than the general population, whereas no differences were reported in the use of smartphones (79% vs. 70%). In addition, 18% of adults with low reading and writing skills and 4% of the general population stated that they do not use digital health technologies. Other digital health technologies such as online appointment scheduling (25% vs. 81%) or health websites (32% vs. 45%) were also used less frequently by adults with low reading and writing skills compared to the general population. Participants in the Liter@te study who do not use digital health technologies reported more frequent access problems (e.g., no suitable device, technical problems, poor internet connection) than participants in the population survey. 35% of participants in the Liter@te study have a low digital health literacy (eHEALS score between 8-19/40 points), compared to only 8% in the population survey.

Abstract citation ID: ckae144.426
Digital health divide in Indonesia: evidence from national-level data

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Indonesia is a country in south-east Asia with a diverse population and context underlined by its geographical condition as an archipelagic country. Due to closer proximity to the capital, the Western regions (e.g., provinces in Sumatra and Java islands) are relatively more developed than the central and eastern parts of Indonesia (e.g., Nusa Tenggara, Sulawesi, and Papua). In the last few years, the country started to embrace digital transformation for public services including the health sector. Accelerated by the COVID-19 pandemic, a proliferation of digital health services through for example the use of telehealth and health apps is now considered important to improve access and availability of health services, especially among marginalized and hard-to-reach populations. Nonetheless, the difference in access to information and technology infrastructure and services as well as in the level of digital literacy across different regions in Indonesia may perpetuate the existing inequity in access to health services. In 2022, data from the Indonesian Central Bureau of Statistics showed that the level of internet access in Indonesia's capital Jakarta has reached 85%, while the level in the eastern part of Indonesia (i.e., Papua) is only 26%. Similarly, the level of internet access in the Western provinces tend to be higher than their Eastern counterparts. Additionally, a survey performed by the Ministry of Communication and Informatics to assess the level of digital literacy in Indonesia shows that 85% out of 10,000 respondents accessed the internet through smartphones. However, almost all respondents encounter problems when accessing the internet, especially regarding network quality which causes unstable and frequent connections disconnected. In addition, the level of digital literacy varies across different regions, with the Western region performing better than other regions (e.g., digital literacy index of 3.64 in Yogyakarta vs 3.55 in Papua in 2022).

Abstract citation ID: ckae144.427
Digital health divide and digital technologies for treating substance-related disorders in Argentina

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Argentina is a country located in the South American region with more than 45 million inhabitants. According to the National Institute of Statistics and Censuses, over 92% of the population lives in urban areas. Additionally, 47% households do not have access to computers, and 12% lack availability of the internet. The present case study demonstrates the effects of the digital divide regarding the use and access to digital technologies in patients who underwent virtual treatment for substance-related disorders in a mental health service in the city of Córdoba, Argentina. This treatment modality included virtual consultation with a psychologist and WhatsApp groups for mutual support. The data obtained is part of a larger research project aimed at evaluating access to digital healthcare treatment, quality of life and patient satisfaction with the use of digital tools for treating substance-related disorders. Participants were adults between 25 and 60 years. The majority of the patients who were surveyed presented cognitive impairment and unemployment status. Those who completed secondary school (79%), stated that virtual consultation was easy to conduct (83%) and WhatsApp group texting information for mutual support was very difficult to comprehend for participating actively (63%). On the other hand, participants who only reached primary school (21%) declared that virtual consultation was easy to do (71%) and WhatsApp group texting information for mutual support was very difficult to comprehend for participating actively (87%). Concerning access, 78% of participants answered that they have difficulties with the availability of digital devices (i.e., smartphones, computers, or tablets), internet connectivity and privacy at home or work for undergoing digital treatment.

7.E. Pitch presentations: Health hazards and impact on health

Abstract citation ID: ckae144.428
Noise inequalities and cardiovascular diseases in Bulgaria

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Background: Social determinants of health in the physical environment are among the social determinants that greatly impact population health. At very high levels, noise can cause permanent changes in a person's psyche but, even at lower levels, it can cause stress and disorders. Global burden of diseases studies arrange noise on the second position among the environmental risk factors, related to sleep disturbance, cardiovascular effects etc. The study aims to analyse noise pollution in Bulgaria and measure its association with cardiovascular diseases.

Methods: National Statistical Institute and Eurostat data were used to analyse the noise pollution in Bulgaria. The 28 regions were compared according to the proportion of surveyed points above permissible limits and the death rates due to CVD, /2022/. Data were statistically processed with SPSS v.26. To establish the correlation, the Pearson coefficient was used.

Results: Data provided by Eurostat reveal that 9% of the total population suffers from noise but there is a very positive trend - from 17.7% /in 2005/ to 8.7% /in 2023/. The share of surveyed points above permissible limits shows a continuing trend of maintaining a high percentage - 71.80% /2011/ and 68.62%/2022/. The district comparison shows significant variations - Blagoevgrad -17.65% and Silistra, Kyustendil and Razgrad with shares above 80%. The study found that almost all districts with the highest share of surveyed points above permissible limits have higher levels of death rate due to CVD. The results of statistical data analysis show that there is a positive moderate linear correlation between the share of surveyed points above permissible limits and the death rate due to CVD - Pearson coefficient 0.423 ($p = 0.025$).

Conclusions: The study found a moderate correlation between noise pollution and the death rate due to cardiovascular disease. CVD have a multifactorial genesis, but reducing noise in urban areas would help prevent these diseases.

Key messages:

- As a result of the performed analysis, it can be concluded that the investigated indicators determining the degree of discomfort during the daily period remained high in Bulgaria.
- The established health inequalities between regions and the increasing mortality from CVD are one of the factors for the deteriorating level of public health in Bulgaria.

Abstract citation ID: ckae144.429
Radon Exposure Is Associated with Breast Cancer Risk: A Long-Term Population-Based Study from Finland

Peng Li

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Background: Radon is a common environmental carcinogen. It is not known whether radon exposure and breast cancer risk are associated at the population level.

Methods: Women continuously living in Finland during the 1987-2016 period were linked to municipality-level indoor radon data annually to estimate their cumulative radon exposure over 30 years. Breast cancer incidence was observed over five years from 2017 onwards. Association between radon exposure and breast cancer incidence was assessed using conditional Cox models adjusted for family history of breast cancer, reproductive history, and socio-demographic covariates. Population attributable fractions (PAF) of breast cancer due to radon exposure were estimated. Robustness analyses were conducted in the population who lived only in houses.

Results: Among 1,335,947 women, 20,067 breast cancer cases were observed during a median follow-up period of 4.9 years. Among women who were exposed to high levels of radon (>100 Bq/m3), overall breast cancer incidence was 10% higher (Hazard ratio 1·10 [95% CI 1·05-1·16]), duct carcinoma incidence was 6% higher (1·06 [1·00-1·13]), lobular carcinoma incidence was 8% higher (1·08 [0·94-1·23]), and the incidence of other morphological sub-types was 34% higher (1·34 [1·17-1·53]) than among other women. Robust associations with overall breast cancer incidence (1·12 [1·05-1·20]) and the incidence of morphological sub-types in the house sample. Correspondingly, suggestive dose-response associations were observed.

Conclusions: High radon exposure is associated with elevated breast cancer risk at the population level, and this relationship is independent of well-established risk factors.

Key messages:

- This study investigates the association between long-term radon exposure and breast cancer incidence based on national register data.
- High radon exposure is robustly associated with breast cancer risk in general Finnish population.

Abstract citation ID: ckae144.430
Burden and economic impact of PM2.5 exposure on Acute Myocardial Infarction in Portugal, 2011-2021

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Background: Air pollution, specifically particulate matter with a diameter of 2.5 micrometers (PM2.5), is the primary environmental health risk in Europe. Exposure to PM2.5 increases the risk of cardiovascular diseases, including AMI, resulting in high direct costs associated with in-patient treatment. This study aims to estimate the avoidable and attributable disease and economic burden of AMI due to ambient PM2.5 exposure in Portugal between 2011 and 2021.

Methods: National databases were used to assess the annual number of hospitalisations and deaths due to AMI between 2011 and 2021. The annual mean costs were calculated using a direct cost analysis (bottom-up micro-costing) to assess the direct economic burden of AMI. In turn, these cases and associated costs were multiplied by the respective morbidity and mortality population attributable fraction (PAF) to estimate the number of hospital admissions and deaths, and their associated costs attributable to ambient PM2.5 exposure. For 2019 and 2021, an alternative scenario of exposure was considered (2021 WHO Air Quality Guidelines), and the avoidable morbidity and mortality costs were determined using the potential impact fraction (PIF).

Results: Between 2011 and 2021, there were 130,447 hospitalisations and 47,968 deaths due to AMI, with 4.79% and 28.90%, respectively, attributable to ambient PM2.5 exposure. This translates to a direct economic burden of morbidity of more than 44 million euros and mortality of almost 195 million euros. If the proposed scenario guidelines were met, 279 cases and 448 deaths would have been avoided in 2019, resulting in a savings of almost 9.7 million euros. In 2021, 93 cases and 355 deaths would have been avoided, with approximately 4 million euros saved.

Conclusions: Exposure to ambient PM2.5 significantly contributes to AMI cases and deaths in Portugal, imposing a significant economic burden. These findings highlight the urgent need for measures to improve air quality.

Key messages:

- PM2.5 pollution in Portugal drives AMI cases and fatalities, entailing significant economic costs.
- Adhering to WHO air quality guidelines promises substantial reductions in AMI incidence and save millions annually in healthcare expenditure.

Abstract citation ID: ckae144.431
Urban Exposome and Health

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Background: The environment in which we live is thought to explain 70% of the non-communicable disease burden. The aim of EXPANSE project (funded from the European Union Horizon 2020 research and innovation programme under grant agreement No 874627) is to evaluate the optimal strategies for maintaining health in the context of contemporary urban environments. As a component of the project, Urban Labs allow deep phenotyping of the urban exposome and assessing its use and perception. The Urban Labs aim to improve exposure assessment, identify mediating and modifying lifestyle factors, and link the urban exposome to intermediate endpoints relevant for cardiometabolic and pulmonary health.

Methods: By monitoring the activities of 4,000 individuals in five distinct urban areas, Urban Labs provide a comprehensive understanding of the urban exposome, which can be compared with residential address-based model estimates. The participants complete a baseline questionnaire, repeated bi-monthly questionnaires and exposure-specific questionnaires over a period of 2 years using mobile phone application (ExpanSeeker). Two-week personalized measurements including spatial-temporal activity patterns, sensor-based environmental and behavioral measurements, and minimally invasive biological sample collection are performed covering different seasons.

Results: The Baseline Questionnaire (BQ) and two-weeks measurement campaigns (MC) were completed in European cities as follows: Athens BQ = 379, MC = 232; Barcelona BQ = 1040, MC = 303; Basel BQ = 731, MC = 655; Lodz BQ = 634, MC = 100; The Netherlands (multicity) BQ = 1033, MC = 326. Data collection process is ongoing.

Conclusions: The collection of novel data on individuals activities and perceptions within temporal and geographical contexts in Urban Labs will contribute to a more comprehensive understanding of how the urban dwellers are exposed to and interact with their environment, thereby supporting healthier urban engineering and policy making.

Key messages:
- Urban Labs will provide a more comprehensive understanding of the impact of the urban environment on individual's behavior, their exposome, enabling more accurate prediction of non-communicable risk.
- Urban Labs will provide a base to support healthier urban engineering and policy making.

Abstract citation ID: ckae144.432
Population health status and green urban areas: impact on health outcomes in two Italian regions

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Background: Living in urban areas has been linked to a rise in noncommunicable diseases. Nevertheless, there is scarcity of evidence emphasizing the combined impacts of certain urban attributes (e.g. pollution, excessive soil sealing, urban temperatures) and the existence of green spaces on health outcomes. Further studies are imperative to evaluate the association between chronic illnesses such as dementia and ischemic heart disease, and the presence of urban green areas.

Methods: We conducted an ecological study in two Italian regions. Prevalence of chronic diseases in Tuscany and Latium were obtained at the municipality level from public health databases available online and Normalized Difference Vegetation Index (NDVI) was calculated for 2023. Descriptive analyses and Poisson regression models were run to assess the association between green space and chronic diseases prevalence, adjusting for age, sex, education, employment, foreign residents, income, urbanicity and spatial correlation.

Results: Preliminary analyses were conducted on 273 municipalities in Tuscany. Mean prevalence per 1000 inhabitants of dementia and ischemic heart disease were 15.75 (SD = 5.3) and 48.25 (SD = 11.06), respectively. Mean NDVI across municipalities was 0.37 (SD = 0.04). Higher green exposure is associated with lower prevalence of ischemic heart disease (β= -0.21; $p < 0.05$) and dementia (β=-0.3, $p < 0.05$). Analyses will be executed for the Latium region and complete results will be available by mid-June.

Conclusions: The presence of urban greenery appears to be associated with a reduction in chronic illnesses. While further studies are warranted, it is crucial to adopt urban policies focused on green spaces and citizens' health outcomes. Generating evidence for decision-makers is essential for shaping urban environments in ways that promote both health and overall human wellbeing.

Key messages:
- Living in green urban areas appears to positively impact human health, reducing chronic disease prevalence.
- Greenery serve as a tool for mitigating and adapting to the climate crisis, promoting health.

Abstract citation ID: ckae144.433
Does the way workplace canteens are managed influence users' plate waste?

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Background: Plate waste (PW) is part of the food waste and is defined as the amount of edible food served not eaten. There are few estimates of PW in the food services, mainly in school canteens, where PW appears to differ depending on the provider. Our aim was to analyse the role of different canteen management in determining PW in three hospital canteens in Italy.

Methods: On 5 working days between August and September 2022, healthcare workers' trays were photographed before and after meal consumption. We compared two canteens managed by an external catering service (EC) with one internally managed (IC). The two canteens with similar sample size had different management. A modified visual Comstock scale was used to assess the PW. The Carbon Footprint (CF), Water Footprint (WF), energy and nutrient content were estimated using the SU-EATABLE LIFE database and the Italian Food Composition Database for Epidemiological Studies (www.bda-ieo.it). Significance was set at $p < 0.05$.

Results: 1227 trays were analysed (1026 in EC; 201 in IC), most of which contained no waste. The percentage of trays with leftovers was higher in EC (34%) than in IC (21%), as was the mean amount of PW (104g EC vs 60g IC) ($p < 0.001$). The PW contained significantly more energy (125 kcal vs 73 kcal) and protein (6.0g vs 2.4g) and had higher CF (204 CO2eq EC vs 76 CO2eq IC) and WF (178 LH20 EC vs 75 LH20 IC) in CE than in IC. The significance was confirmed independently to the sample size of the canteens, and when the analysis was repeated and only the first access of each user was considered.

Conclusions: Results suggest that an internally managed canteen produces less leftovers than a canteen operated by an external provider. This could be because an internally managed canteen is more adaptable to users in terms of food offerings and portion sizes, despite a smaller number of food options. However, further studies are needed to confirm our findings and to identify the causes of PW in food service.

Key messages:

- Internally managed canteens seem to reduce plate waste, probably due to certain flexibility according to users' plate waste.
- Non-served food of the canteen should be estimated to confirm our data.

Abstract citation ID: ckae144.434
Dietary trajectory profiles of French adults over time: Multicriteria analysis of sustainability

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Despite the urgent need for sustainable dietary transitions, few studies have examined current dietary trajectories using longitudinal data. This study aimed to identify dietary consumption trajectory profiles over an 8-year period (2014-2022) while assessing their sustainability in a multicriteria approach. Consumption data from NutriNet-Santé cohort participants were collected using FFQs in 2014, 2018 and 2022. Dietary trajectory profiles were modeled using group-based multi-trajectory based on factors from Principal Component Analysis on energy-adjusted consumption data ($n = 17{,}187$). Profiles were analyzed for sustainability (environmental and nutritional dimensions) using multi-adjusted mixed-effects models. Six trajectory profiles (P) were identified. P0 (considered as reference) had average consumption for all food groups, with increased plant-based intake over time. In comparison, P1 had the highest baseline alcohol (+301%) and offal intake, increasing processed meat (+74%) and decreasing offal over time. P2 had higher milk (+187%) and sweet drinks intake, increasing animal substitutes (+1737%) and whole-grain products. P3 had higher nuts (+680%) and legumes intake, increasing egg (+166%) and reducing fruit juice. P4 had high fish (+39%) and fruit intake, increasing butter (+53%) and reducing alcohol. P5 had higher pork (+143%) and red meat intake, increasing fish (+31%) and reducing dairy. Initially, P3 and P4 had the lowest GHG emissions (-18%, -49% vs. P0), best nutritional profiles, and higher organic food consumption. P5 had the greatest environmental impact (+51%) and the lowest nutritional scores. Over time, P0 reduced GHG emissions and improved nutritional scores. P3 and P4 showed minimal changes, while P5 had the greatest GHG emissions decrease (-14%) and nutritional quality improvements. Identifying ongoing dietary transition trajectories, our findings contribute to optimizing targeted actions aimed at promoting sustainable dietary consumption habits.

Key messages:

- Regardless of initial dietary preferences, French adults exhibit an overall trend over time towards increased intake of plant-based foods and decreased intake of red meats, at varying scales.
- French adults exhibit varying degrees of transition towards more sustainable diets, with an overall decrease in GHG emissions from food consumption and an improvement in their nutritional profiles.

Abstract citation ID: ckae144.435
Ethically challenging situations in teachers' work: role of school neighborhood socioeconomic status

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Background: Ethically challenging situations are common in the teaching profession and can lead to significant stress. In particular, teachers working in socially disadvantaged areas may face these kinds of situations more often due to conflicts between educational needs and available resources. We investigated the link between school neighborhood socioeconomic status (SES) and the prevalence of ethically challenging situations among teachers.

Methods: Data were from primary school teachers ($n = 1265$) participating to the Finnish Public Sector study in 2022. Experiences on ethically challenging situations were assessed with two questions: In your work how often do you feel that you have to 1) reflect on ethically challenging situations and 2) act contrary to rules, norms, or personal values (at least weekly vs. less frequently). Survey data were linked to information on school neighborhood SES obtained from national grid database. Log-binomial regression models were used to analyze the relationship between school neighborhood SES and ethically challenging situations.

Results: Of the respondents, 61% reported having to reflect on ethically challenging situations, and 18% felt they had to act against rules or personal values at least weekly. Teachers in schools located in the most disadvantaged areas were more likely to feel that they had to act against rules, norms, or values weekly compared to teachers in schools in the most advantaged areas (adjusted RR 1.43, 95% CI 1.01-2.02). No association was observed between reflecting on ethically challenging situations and school neighborhood (adjusted RR 0.98, 95% CI 0.87, 1.11).

Conclusions: School neighborhood SES appears to be associated with teachers' possibilities to choose action in ethically challenging situations.

Key messages:

- School neighborhood SES appears to be associated with teachers' possibilities to choose action in ethically challenging situations.
- It is essential to develop strategies to support teachers in managing ethically challenging situations in their work environments.

7.F. Scientific session: Living lab Cartesius: multidisciplinary cooperation for health monitoring of an ‘urban blue zone’

Abstract citation ID: ckae144.436

Organised by: UMC Utrecht (Netherlands)
Chair persons: Rosalie Hegeman (Netherlands)
Contact: R.M.M.hegeman@umcutrecht.nl

This workshop will be based on health monitoring in living lab Cartesius; a neighbourhood that is currently developed in the city of Utrecht, the Netherlands (Home - Cartesius Utrecht (cartesius-utrecht.nl). The design of this neighbourhood is inspired by the concept of the “blue zones” of Pes and Poulain, places in the world, that they argue are inhibited by the healthiest, longest-living populations because they integrate sustainability, climate adaptation and healthy living. In Cartesius citizens will for example be encouraged to move by inviting outer spaces, meet each other in the community areas and eat healthily nudged by the food options in the food court. An important element of these blue zones is the incorporation of green spaces in the neighbourhood. Examples are (community) parks/gardens, a green walking route around the neighbourhood, trees in the bike parking lots, green facades etc. The neighbourhood is designed to become a home to local species such as plants and animals as well as people. In addition, climate change adaptation is incorporated, the appartements are well insulated and contain solar panels and green and white roofs. Preventing heat stress is considered in the green design of the outdoor spaces and special drainage and water storage equipment throughout the neighbourhood. The municipality has been closely involved in this project from the start, they created the call for developers to create a healthy urban neighbourhood and after selecting the Cartesius project they have remained involved in its development. Of special interest to the municipality is community building (in new neighbourhoods) in order to strengthen social cohesion and prevent loneliness. We will conduct a research on this topic of which the results could permanently impact how new neighbourhoods in Utrecht will be approached. Designers, developers, research institutes, governments and the current inhabitants are now collectively working on a holistic monitoring programme in this neighbourhood to collect evidence for the effects of the “blue zone” interventions and design choices on behaviour, health and well-being of residents. This workshop will focus on various aspects of the Blue Zone Concept, the importance of green in urban living, the participatory role of local residents, the role of stakeholders and the relevance for local governance. First of all the participants will be informed about a unique healthy/green urban living concept based on the blue zones currently in development. The participants will get insights in the process of developing a new healthy neighbourhood where different challenges (e.g. climate adaptation, community building, healthy living environment) are experimented with stakeholders from the quadruple helix (private, government, science and societal stakeholders). Simultaneously, we want to allow room for ample time for audience interaction to share their experiences on similar multi transdisciplinary cooperations and monitoring strategies.

Key messages:

- This session will provide room for knowledge exchange in the area of healthy urban living and transdisciplinary collaboration.
- Specific focus on holistic monitoring of the effectiveness of health interventions in urban living areas and (international) policy implications.

The concept of Cartesius

The workshop will start with a presentation about the concept of the Cartesius neighbourhood. The incorporation of the elements of the Blue Zones will be discussed and images of both the current state of the development and artist impressions of the future finished neighbourhood will be presented. Room for (among other topics) discussion about the ‘translation’ of the blue zone concept to this urban area. This presetntation will be done by Marije Lammers (University Utrecht, postdoc and coordinator monitoring programme healthy urban living in Cartesius)

Incorporating citizens in monitoring

300 appartements in Cartesius are already realized, in which +/- 600 citizens are currently living. In a time span of about 8 years the number of apartments will have increased to 3000, with about 6000 inhabitants. The current citizens are involved in designing the monitoring strategy and community building approach. In order to measure effectively whether the health interventions in Cartesius will impact the citizens’ health their involvement and cooperation is crucial. Room for (among other topics) discussion about involving citizens in monitoring and community building effectively.

WHO Europe Healthy Cities

This presentation will discuss how developments in the Cartesius neighbourhood are in line with WHO Europe Healthy Cities ambitions for bringing about change and achieving improved health, well-being and equitable and sustainable development in cities across the European Region and globally. Room for (among other topics) discussion about possibilities for international knowledge exchange and applications. This presentation will be by: Kira Fortune, Regional Advisor, Healthy Cities, Health Promotion and Well- being, World Health Organization

7.G. Round table: Primary prevention and management of NCDs – the added value of joint actions across Europe

Abstract citation ID: ckae144.437

Organised by: JA PreventNCD, JACARDI, EUPHA-PHMR
Chair persons: Graziano Onder (Italy), Hanna Tolonen (EUPHA-PHMR)
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Two ambitious European joint action projects, funded through the EU4Health programme, are ongoing to reduce the burden of non-communicable diseases (NCDs) and related risk factors in Europe, targeting both individual and societal levels. Together, these projects aim to scale up effective prevention and management strategies, strengthen public health policies and promote equitable and sustainable healthcare systems across Europe. The Joint Action on CARdiovascular Diseases and DIabetes (JACARDI), with 21 participating countries and a total budget of over €66 million, is focusing on enhancing the implementation of evidence-based innovative pilot projects across the entire patient journey. This includes efforts to improve prevention, early diagnosis, and proactive management of NCDs. The Joint Action Prevent Non-Communicable Diseases (JA PreventNCD), with 25 participating countries and a total budget of over €95 million, particularly aims to enhance joint capacities of countries for implementing, scaling up and evaluating prevention policies and actions at various levels. These projects represent complementary responses to calls for action in Europe's Beating Cancer Plan and the Healthier Together - EU NCD Initiative, with JA PreventNCD emphasizing primary prevention and policy while JACARDI focuses on secondary prevention and health systems strengthening. Both projects will generate new policy-relevant evidence based on implementation, monitoring and scaling-up of best and innovative practices and policies across Europe. The projects share a focus on equity, diversity, scalability and sustainability, while avoiding fragmentation and duplication of actions. Under the EU4Health programme, launched to strengthen European health collaboration in the wake of the COVID-19 pandemic, the EU has recently invested over €200 million in public health initiatives, with additional investments from national authorities participating in the joint actions. With this new wave of funding, real population impact should be anticipated, but what can we realistically expect to be the outcomes and what are the criteria for success? In this round table discussion 1) these two joint action projects will be presented, highlighting their innovative aspects; 2) views on the added value and potential in cross-national collaborations for prevention and management of NCDs will be debated, and 3) how synergies will be leveraged for maximum impact will be explored. Panelists will share their perspectives on the projects' potential to change the public health landscape in Europe. Workshop participants will subsequently be encouraged to engage in the discussion with the objective that views and experiences are exchanged, opportunities for collaboration and engagement are shared and energy is mobilized to harness the benefits of such large-scale policy-relevant collaborations.

Key messages:

- Synergies and collaboration to drive policy development and foster increased capacity are the pillars to build a healthier Europe.
- Two large-scale Joint Actions drive impact by highlighting innovative NCD prevention strategies and fostering collaborative engagement.

Abstract citation ID: ckae144.438
Scaling up joint efforts to tackle cardiovascular diseases and diabetes in Europe

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JACARDI, a Joint Action on cardiovascular diseases (CVD) and diabetes (DM), aims to support EU countries in reducing the burden of CVD and DM and related risk factors, both at individual and societal levels, while ensuring health systems sustainability and equity. In particular, JACARDI aims to implement best practices and pilot testing of innovative practices throughout the entire patient journey. Commencing by improving health literacy and raising awareness among general and target populations, moving through primary prevention and screening of CVD and DM among high-risk populations, and then address people living with CVD and DM and their health service providers, through the improvement of service paths and (self) management, including through digital tools, and completing the path by supporting and encouraging the labour participation of people living with these diseases. With 21 European countries and 76 partners engaged, JACARDI undertakes 142 pilot projects, promising to advance CVD and DM care for millions across Europe. In particular, through an innovative Work Package on methodology, JACARDI will develop and implement a methodological framework to guide all the pilot projects in the design, preparation, implementation, monitoring, reporting, and assessment processes. This framework will encompass transversal and intersectional aspects, ensuring a harmonized and efficient approach for all JA activities. Through rigorous and multidimensional evaluation, JACARDI aims to uncover new approaches to enhance healthcare systems, grounded in evidence-based practices and current needs, while adopting the lens of equity and sustainability throughout the entire methodological and implementation process.

Abstract citation ID: ckae144.439
Joining forces to accelerate cancer and NCD prevention in Europe

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JA PreventNCD, a Joint Action to prevent cancer and other non-communicable diseases (NCDs) aims to assist authorities in prioritizing the most effective prevention strategies and policies to reduce the burden of cancer and NCDs, focusing on both personal and societal risk factors. A key objective is to tackle social inequalities by addressing the root causes of NCD risk factors and adopting a life-course approach. Recognizing that health is created by policies in several sectors is key when addressing health determinants, including social and commercial determinants of health. Consolidated efforts across countries will be required to tackle some of these determinants. To achieve the project's objectives, the JA PreventNCD will build a comprehensive European infrastructure for monitoring risk factors, disease burden, and the impact of policies and interventions. Rigorous evaluation will ensure that the project's deliverables will have an impact at local, national and EU levels. Three technical work packages address common risk factors for NCDs through actions ranging from policies and structural measures at societal level to interventions targeting individuals. Another set of cross-cutting work packages address monitoring, social inequalities, and health in all policies. More than 100 partners across 25 countries are involved, with almost 100 pilots to be conducted over the course of the project's four years. One way of ensuring sustainability of the project's outcomes is the building of a sustainable governance structure through the establishment of an EU Consortium on Cancer Prevention. Furthermore, as a mechanism to ensure high policy relevance of this JA, a Policy Decision Maker's Forum will be established to engage policymakers and ensure feasibility of the project's recommended actions.

Speakers/Panelists: Claudia Habl
Austrian National Public Health Institute, Vienna, Austria
Ane Fullaondo
Biosistemak, Bilbao, Spain
Arnfinn Helleve
Norwegian Institute of Public Health, Oslo, Norway

7.H. Round table: Advancing societal goals through health systems: Insights from the Renewed HSPA Framework

Abstract citation ID: ckae144.440

Organised by: European Observatory on Health Systems and Policies
Chair persons: Rachel Greenley (UK), Dheepa Rajan (Belgium)
Contact: rachel.greenley1@lshtm.ac.uk

The purpose of this workshop, entitled 'Advancing societal goals through health systems: Insights from the renewed HSPA framework,' is to take a deeper look at the intricate relationships between health systems and broader societal objectives. We will dissect the contributions of health systems to societal well-being, a concept that stretches beyond mere economic growth to include social cohesion, environmental sustainability, and economic development. The session will examine the renewed global Health System Performance Assessment Framework, which serves as a tool for policymakers to better understand how health systems fit together and explains how they perform. This framework allows for a clearer interpretation of health data and provides a pathway to pinpoint health system issues and design that are most likely to enhance performance and resilience. The workshop will delve into the three dimensions of societal well-being-social cohesion, economic development, and environmental sustainability-nested within the HSPA framework. We will explore the health system's role in advancing these dimensions, such as fostering community bonds, supporting economic growth through a healthy workforce, and contributing to the sustainable management of environmental resources. Integrating health system performance into societal goals is a practical obligation to create a resilient, cohesive, and economically robust society. This workshop will engage stakeholders in a discourse to translate this integration into multisectoral and actionable policies, aligning health system goals with societal aspirations for a sustainable future. This workshop will focus on: How health system assessments can capture contributions to societal goals, underpinning sustainable economic and environmental practices. Real-world case studies showcasing health systems' role in fostering societal well-being and advancing public health policies. Interactive discussions will shed light on how health systems can be pivotal in achieving the Sustainable Development Goals, particularly in the face of modern challenges such as climate change, demographic shifts, and economic pressures.

Key messages:

- Health systems play a pivotal role in advancing societal well-being beyond traditional health outcomes.
- The renewed HSPA framework is a robust tool for policymakers to align health system performance with broader societal goals.

Speakers/Panelists:

Scott Greer
University of Michigan, European Observatory on Health Systems and Policies, Ann Arbor, USA

Andrea Schmidt
Austrian Public Health Institute, Vienna, Austria

7.I. Skills building seminar: Beyond the jargon: an interactive workshop for effective risk communication

Abstract citation ID: ckae144.441

Organised by: EUPHAnxt, EUPHA-EPI, Sciensano (Belgium)
Chair persons: Jinane Ghattas (EUPHAnxt), Angelo Maria Pezzullo (EUPHA-EPI)
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Risk communication plays a central role in epidemiology to provide information for disease surveillance and outbreak control. It is one of the of the eight core functions that WHO Member States must comply with as part of the International Health Regulations (2005) ensuring national and global preparedness for health threats. It refers to the timely and accurate exchange of information between public health experts or authorities and individuals who are confronted with a threat to their survival, health, economic or social well-being. At its core, risk communication is about empowering people exposed to a risk to make well-informed decisions in order to mitigate potential risks and adopt preventive actions and measures. Risk communication considers political, social, and economic factors; it analyses risk and risk perception; and it places a great emphasis on dialogue with impacted and targeted populations to help them make the best decisions they can. Therefore, it requires an understanding of stakeholders' perceptions, concerns, and beliefs, as well as their knowledge and practices. In the context of the COVID-19 pandemic, the need for effective and efficient risk communication has become even more evident than before. Risk communication should be able to recognise and deal with rumours and disinformation, and reach the most vulnerable groups, who have a higher risk of contracting the virus and suffering from COVID-related consequences. Lately, increasing attention has been given to this topic. The WHO set-up, in April 2023, a technical Advisory Group for Risk Communication, Community Engagement and Infodemic management (TAG-RCCE-IM) to provide independent review and technical advice in the context of emergency preparedness and response in Europe. The Joint Action PreventNCD aims to also build a framework for country-specific communication strategies for non-communicable diseases (NCD) patients in health crises in one of the Work Packages, by collecting and analysing health communication strategies in different European countries targeting NCDs. In this interactive skills-building seminar, we will share with the participants the knowledge, skills, and process of effective risk communication by using case studies from experts in the field. The session will start with a presentation on the core elements of risk communication followed by examples from the field. This workshop will foster an inclusive interactive environment where participants will hear from panellists sharing their experiences from different settings such as international organisations and national public health institutes. Participants will be split into groups and will be provided with a piece of scientific output, such as a research study or epidemiological report and encouraged to translate this technical message into a clear, concise message that can effectively communicate the key points to the general public.

Key messages:

- Risk communication is essential to fight disinformation while empowering the public to make informed decisions related to their health and well-being.
- Epidemiologists and researchers should be encouraged to employ efficient and targeted communication strategies when disseminating their findings.

Speakers/Panelists:

Stefan Schaub
Bundeszentrale für gesundheitliche Aufklärung (BZgA, Cologne, Germany
Federica Rossetti
Sciensano, Brussels, Belgium
Stefan Adrian Voinea
WHO/Europe, Copenhagen, Denmark

7.K. Round table: Approaching new public health frontiers: health literacy on a global level

Abstract citation ID: ckae144.442

Organised by: EUPHA-HL, -PHMR, WHO, WHO Collaborating Centre for Health Literacy, Technical University of Munich (Germany), Global Health Literacy Academy (Denmark), Sciensano (Belgium)
Chair persons: Orkan Okan (EUPHA-HL), Nienke Schutte (Belgium)
Contact: orkan.okan@tum.de

This workshop will introduce the newly established WHO Collaborating Centre for Health Literacy (WHO CC HL) at TU Munich (TUM) in Germany and reflect on its goals and discuss the potential impact on European public health research, policy, and practice. With the launch of the WHO CC HL, TUM, WHO, and their collaborators, among which are the EUPHA Health Literacy Section, the International Health Literacy Association, and the Global Health Literacy Research Network, jointly aim at systematically developing health literacy as part of the WHO Sustainable Development and Well-being agenda. Health literacy represents the skills and attitudes to find, understand, appraise, and apply health information and services. Low health literacy is prevalent among all population and age groups and it is linked to worse health outcomes and health inequalities. Across the social gradient, people from low socioeconomic backgrounds are more likely to have low health literacy, which is why the European Commission and WHO both highlighted the need to invest in health literacy and, in particular, in school health literacy. Two emerging fields of study include data generation and interventions. Both of which are highly critical to monitoring change and providing evidence-based data on population and system-level health literacy within and between countries. However, there are no health literacy monitoring systems in place on a global scale nor is there robust evaluation data on school-based interventions. These shortcomings will be addressed through the WHO CC HL at TUM. In this round table workshop with five key health literacy and public health experts, the main goal is to present the WHO CC HL and its roadmap for the next four years and critically discuss how the work can influence European and Global public health: Dr. Faten Ben Abdelaziz, WHO; Anastasia Kyoylu, WHO/Europe; Dr Kristine Sorensen, Global Health Literacy Academy; Dr. Charlotte Marchandise, EUPHA; Prof. Dr. Orkan Okan, WHO Collaborating Centre for Health Literacy at Technical University of Munich.

First, the chair will provide a short introduction to the WHO CC HL and will, together with the co-chair, facilitate the following panel discussion. The panel members will share a short 2-to-3-minute statement from their point of view in relation to planned activities of the WHO CC HL and highlight synergies to public health and health literacy development. Following the short statement, the chairs will prepare individual questions for each panellist and engage them in a discussion, which shortly after will open towards the audience for them to participate actively with the panellists in a 30-minutes discussion.

Key messages:

- The round table workshop will introduce the newly established WHO CC HL, highlight its goals and impact on public health, and highlight collaboration opportunities.
- The key experts will reflect about the WHO CC HL from their unique standpoints and reveal new perspectives on the way forward and how the work can benefit from ongoing public health initiatives.

Speakers/Panelists:

Faten Ben Abdelaziz
WHO, Geneva, Switzerland
Anastasia Koylyu
WHO, Copenhagen, Denmark
Kristine Sørensen
Global Health Literacy Academy, Risskov, Denmark
Charlotte Marchandise
EUPHA
Orkan Okan
Technical University of Munich, Munich, Germany

7.L. Practice session: Is there an investment case for health at older ages?

Abstract citation ID: ckae144.443

Organised by: European Observatory on Health Systems and Policies
Chair persons: Jonathan Cylus (WHO)
Contact: jvasco.santos@gmail.com

The global demographic landscape is undergoing significant transformation due to increases in longevity and declining birth rates. According to the United Nations, the world's population aged 65 and over is projected to more than double, reaching over 1.5 billion by 2050, while global fertility rates are expected to decline to 2.4 births per woman by 2030 and continue decreasing to 2.2 births per woman by 2050. Ageing populations have frequently concerned decision-makers due to the potential implications of changes in population age-mix for labour markets and the economy, as well as for the sustainability of public programs and spending, particularly the health sector. For example, as the share of the population at older age increases, there are concerns over how to cope with the possible economic implications of having a smaller share of people at traditional working age (with potentially more people obtaining income security through both public and private pensions) and how to respond to greater health and long-term care needs. Without appropriate policy responses, there are worries that demographic changes will have inevitable consequences for households, public finances and possibly for economic growth and development. To support policy decisions related to population ageing it is important to have informative evidence and modelling tools that allow policymakers to better understand both the implications of population ageing as well as the consequences of policy action or inaction. To this end, this session presents three recently developed modelling tools that aim to address a number of policy relevant questions related to ageing:

1) How does ageing affect health financing and are health systems unsustainable?

2) How does ageing affect economic objectives and does health at older ages matter?

3) Can we develop economically relevant measures of health at older ages if older people do not have formal ties to the labour force?

Using data and analyses from a range of European countries, we will demonstrate empirically that the way ageing affects health financing systems, economies, and societies more broadly reflects policy choices and is not an inevitable consequence of demographic changes.

Key messages:

- Policymakers must prioritize informed policies to comprehensively understand the impact of aging on health financing and economies, facilitating the development of sustainable solutions.
- Immediate action is imperative to address the implications of aging on labor markets and public spending, ensuring future economic stability and safeguarding societal well-being.

Abstract citation ID: ckae144.444
Population ageing and health financing: A method for forecasting two sides of the same coin

Gemma Williams

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There is a perception that population ageing will have deleterious effects on future health financing sustainability. Given the positive association between health care utilization and increasing calendar age, many analysts assume population ageing will result in considerable growth in health spending. Since this expenditure tends to be sourced primarily from public funds, there is great policy interest to quantify how population ageing is likely to affect health expenditure trends. We propose a new method-the Population Ageing financial Sustainability gap for Health systems (or alternatively, the PASH)-to explore how changes in the population age mix will affect health expenditures and revenues. Using a set of six countries in Europe and the Western Pacific representing a diverse range of health financing systems (Australia, Bulgaria, Japan, Slovenia, United Kingdom, Vietnam), we forecast the size of the ageing-attributable gap between health revenues and expenditures from 2020 to 2100 under current health financing arrangements. The largest gap by 2100 is expected to be in Vietnam, where the gap between revenues and expenditure is expected to increase by around $170 per person in 2018 PPPs or 2.3% of GDP; 87.1% of this increase is due to expected growth in expenditures. In Slovenia, where the gap is forecast in line with the forecast for Japan (the oldest country in the world), nearly half of the gap (44.2%) is due to reductions in revenue generation. All countries face some health financing gap due to ageing under current financing arrangements. The PASH analysis highlights the wide range of policy options available to manage health financing as the population ages, such as changing sources for health revenues and reducing expenditure by promoting healthy ageing.

Abstract citation ID: ckae144.445
Health, an ageing labour force, and the economy: Does health moderate the relationship between population age-structure and economic growth?

Jonathan Cylus

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Research often suggests that population ageing will be detrimental for the economy due to increased labour market exits and lost productivity, however the role of population health and disability at older ages is not well established. Identifying whether the health of older people affects economic outcomes is challenging due to methodological issues. Using country-level panel data, we estimate the relationship between the size of the older working age population (aged 55-69) and economic growth across 180 countries from 1990 to 2017. We run models using annual data and 5-year moving averages of real per capita GDP growth as dependent variables. This enables us to quantify the gains in real per capita GDP growth associated with a healthy older working-age population on a country-by-country basis. The initial models confirm an inverse-U or hump-shaped relationship between population age groups and economic growth. In the 5 year average GDP growth model, the coefficient for the inverse of YLDs among 55-69 year olds is positive and significant at $p < 0.01$. The interaction term is significant at $p < 0.001$ in the same model. Across all countries, a 5% improvement in YLDs is associated with at minimum 0.3% predicted additional annual real per capita GDP growth. While a larger share of the older working-age population at ages 55-69 has historically been associated with slower real per capita GDP growth, low levels of disability in this age group can reduce or even eliminate these adverse economic effects. We consistently find a significant positive interaction between disability and the share of the population at ages 55-69, suggesting that adverse economic effects are amenable to policy intervention.

Abstract citation ID: ckae144.446
The value of healthy ageing: Estimating the economic value of health at older ages using time use data

João Vasco Santos

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While health naturally has intrinsic value and maintaining health as people age seems to make good economic sense, making the case for investing in health at older ages can be challenging. Much economic growth is historically attributed to the working-age population; however, maintaining good health as people age also enables older

people to contribute meaningfully to the economy. Investing in health at older ages, therefore, can be strategic economic policy. We develop a novel method to quantify the economic value of health through time use data. Using data from the United Kingdom Time Use Survey (UKTUS) 2014-15 for individuals aged 65 years-old and older, we apply survey-weighted generalized linear models to predict the time spent in non-market productive activities based on age and self-perceived health. We then quantify the monetary value of time spent engaging in these activities and simulate the monetary impact of health gains at older ages. Both age and self-perceived health status were associated with minutes spent in many non-market productive activities. Being in 'very good' instead of 'very bad' self-perceived health is associated with an additional production of 439£, 629£, and 598£ per month for an average individual aged 65 to 74 years-old, 75 to 84 years-old, and 85 years-old and older, respectively. Our simulation model indicates that improving the health of 10% of older people in 'very bad' health could lead to an economic increase of up to 278£ million through non-market activities. Health at older ages creates considerable economic value which is not captured using standard national accounting measures. Our work highlights the importance of health for functional capacity as people age, allowing them to engage more in non-market activities. Our method to quantify the monetary value of health can be adapted to other settings to make the economic case for investing in healthy ageing.

7.M. Round table: A new lens on loneliness: leveraging the built environment for social health

Abstract citation ID: ckae144.447

Organised by: Manchester Institute of Education (UK), DEFACTUM (Denmark)
Chair persons: Nina Goldman (UK)
Contact: nina.goldman@manchester.ac.uk

Loneliness is a global issue impacting a third of all adults, with young adults (15-25 years) disproportionately affected. Prolonged loneliness has serious consequences for mental and physical health and should be addressed as a matter of urgency. The built environment, where we live, work, and socialise, is increasingly recognised as a significant factor influencing loneliness. However, existing interventions often focus on older adults and neglect the role of the built environments in promoting connectedness across the life course. To bridge this gap, we need interdisciplinary collaboration to understand how our environments and communities can mitigate loneliness. This workshop will explore the critical intersection of place and loneliness interventions. The three panellists bring unique interdisciplinary expertise on loneliness ranging from policy to intervention implementation. These three talks (10min each) will set the stage for a dynamic discussion (30min):

1. Nina Goldman, commissioned by the World Health Organization to undertake a global overview of national loneliness policies, will present findings on how national strategies integrate place-based strategies across sectors such as housing, transportation, and urban planning.
2. Mathias Lasgaard, leading researcher on loneliness interventions, will present the innovative 'More Together' (MoTo) project - a multifaceted intervention addressing loneliness in both young and older adults within the Silkeborg Municipality, Denmark. This presentation will contextualize MoTo within the broader landscape of targeted loneliness interventions.
3. Eric Schoenmakers, advisor of the national loneliness action program in the Netherlands, will introduce the "I BELONG" project, an international network dedicated to understanding the relationship between public spaces, loneliness, and effective interventions for young adults in the Netherlands.

Key messages:

- We aim to stimulate a paradigm shift in the way we address loneliness by moving beyond individual-centred solutions to develop a more holistic and community-based approach.
- We need more interdisciplinary collaboration to understand how our environments and communities can mitigate loneliness.

Speakers/Panelists:

Nina Goldman
University of Manchester, Manchester, UK
Mathias Lasgaard
Defactum, Central Denmark Region, Aarhus, Denmark
Eric Schoenmakers
Fontys University of Applied Sciences, Eindhoven, Netherlands

7.N. Round table: Social media & smartphones: Threats to child & adolescent health and public health solutions

Abstract citation ID: ckae144.448

Organised by: EUPHA-CAPH
Chair persons: Sonia Saxena (EUPHA-CAPH), Julia Dratva (Switzerland)
Contact: john.gannon03@gmail.com

The daily lives of children and adolescents in 2024 are heavily influenced by social media and smartphones, which is unprecedented in previous generations. While this technology offers undoubted benefits, there is strong evidence on the negative effects of social and cognitive development of infants and primary school aged children, and mental health impacts in adolescents including depression, anxiety, sleep disruption, addictive behaviours and self-harm. Internet companies are financially incentivised to maximise screen time of users to generate advertising revenue, and more time spent by young people on these devices in a largely unregulated online domain increases risk of consequences like bullying and harassment, body dysmorphia, gambling addiction, porn addiction, sexual predation and suicide. Comprehensive solutions are urgently needed to regulate the activities of social media and tech companies and support young people to protect themselves from serious harms. Governments have been slow to introduce policies such as smartphone bans or enhanced privacy laws, perhaps because they are perceived as unpopular infringements on the rights of adult users and/or due to a potential detrimental effect on commercial interests. Guidance can be disseminated to young people, schools, families and institutions on how to reduce screen time and smartphone addiction, and improve coping and self-regulation to mitigate these risks. Information campaigns with positive health messages in this area, to compete with the advertising dominance of social media companies, are another opportunity to improve behaviours and reduce adverse health effects. The objectives of this round table workshop are to share examples of strategies, guidance and policies from across Europe, and discuss with the audience how the public health community can collaborate to tackle this problem. Members of the EUPHA Child and Adolescent Public Health (CAPH) section will outline the latest available evidence on the negative impacts of social media and screens, present examples of innovative public health responses and strategies to protect children, and engage conference participants for their input and discussion. Five panellists will present. First, John will start with a quiz of the audience which will include presentation of current data and trends relating to social media and smartphone usage. The second presentation by Cecilia will highlight in detail evidence of both benefits and adverse effects of these technologies in the lives of young people. The third speaker Karin will discuss examples of effective policies to reduce this impact, with a focus on the role of schools. The fourth speaker Jean will give further examples of public health actions, and share recommendations directly from children and young people. The fifth panellist Silja will re-quiz the audience, to gauge the reaction and support of solutions that were covered, and this will lead into the interactive discussion.

Key messages:

- Popularity of smartphones and social media has increased dramatically in recent years, particularly among minors, with significant impacts on mental and physical health.
- Public health solutions are urgently needed, and this workshop will share examples of effective innovative responses in European contexts, followed by an interactive audience discussion.

Abstract citation ID: ckae144.449
Introduction to round table panel discussion and audience quiz

John Gannon
Department of Public Health Area C, Health Service Executive, Dublin, Ireland

Dr. John Gannon is a Public Health Specialist Registrar with HSE Ireland. He has a background working in clinical paediatrics in Ireland, Australia and Zambia. John will introduce the workshop and begin by quizzing the audience using an interactive online tool, to evaluate their perceptions and understanding of the current landscape of screen usage and social media among children and adolescents. In this presentation, he will relay statistics on these metrics and the dramatic upsurge in recent years. He will also touch on the financial implications of these trends for global tech giants.

Abstract citation ID: ckae144.450
Screen time and social media exposure in children and adolescents - the landscape

Cecília Elias
Faculty of Medicine, University of Lisbon, Lisbon, Portugal

Dr. Cecilia Elias is a Public Health Consultant, collaborating with the Infant, Youth, Sexual and Reproductive Health Division at the Health Directorate General, in Lisbon, Portugal. Following on from John's introduction, Cecilia will dig deeper into the impacts of the omnipresence of social media and phones in modern society. She will provide an overview of the harms and benefits for today's youth. She will highlight data for example on impaired development of language, cognitive and social skills from screen exposure at young ages, and increased rates of depression, anxiety, self-harm, and school refusal among adolescents with problematic social media usage, including examples of significant outcomes. Exposure to disturbing and harmful content on social media platforms like TikTok and Instagram will be covered also.

Abstract citation ID: ckae144.451
Ban on mobile phones in the classroom: first (positive) effects

Karin Boode
Youth Department, National Association of Regional Public Health, Randstad, Netherlands

Karin Boode MBA is Strategic Youth Policy Advisor and working at the National Association of Regional Public Health Services Netherlands. Leading on from the presentation on the harms of social media and smartphones, Karin will present examples of policies that have been successful in reducing the health impacts on youngsters. She will focus on the role of schools in addressing this problem, and how public health organisations can effectively disseminate guidance to teachers and parents in limiting screen time and improving self-regulating behaviours of children and adolescents to minimise screen and smartphone addiction. Karin will also explore controversial legislation such as smartphone bans.

Abstract citation ID: ckae144.452
Social media use in children and young adults: the Malta experience

Jean Calleja-Agius
Faculty of Medicine and Surgery, University of Malta, Msida, Malta

Prof. Jean Calleja Agius MD PhD is Professor at Faculty of Medicine and Surgery at the University of Malta. Jean will demonstrate further examples of interventions to make the internet safer for young people, drawing on her experience of collaborating with the Children and Youth Council within the Malta Foundation for the Wellbeing of Society (MFWS), which in turn is affiliated with EUROCHILD. She will share the outcomes of initiatives which have been carried out within MFWS and outline recommendations made directly by children and adolescents. More stringent regulation of social media companies will be addressed, as well as the need for other measures to engage children in other healthier activities and empower them to opt for the right choices.

Abstract citation ID: ckae144.453
Summary of presentations and urgent call to action

Silja Kosola
Adolescent Medicine, University of Helsinki, Helsinki, Finland

Dr. Silja Kosola MD PhD is Associate Professor of Adolescent Medicine and primary investigator with the University of Helsinki, Finland, and Research Director at the Western Uusimaa Wellbeing Services County in Southern Finland. As the concluding presentation, Silja will quiz the audience again with the online tool, this time to gauge the responses and support of the solutions that have been outlined. She will present a summary of the points raised, and this will then lead into the interactive discussion about the call to action.

7.O. Skills building seminar: Initiating change: Mainstreaming equity and diversity in public health

Abstract citation ID: ckae144.454

Organised by: JACARDI, EUPHA-MIG
Chair persons: Bernadette Kumar (EUPHA-MIG)
Contact: natalia.skogberg@thl.fi

Background: Consideration of the increasing population cultural and ethnic diversity and the widening of social gaps is essential for narrowing health inequities. While tailored and targeted measures for populations at risk of social disadvantage are needed, mainstreaming and integration of diversity and inclusion perspectives in all public health measures are required. To our knowledge, the EU Joint Action for Cardiovascular diseases and diabetes (JACARDI) is the first large-scale program to apply a systematic and harmonized approach for integrating equity and diversity perspectives.

Objectives: The main objective of the workshop is skills building in integration of equity and diversity perspectives in practice through:

1) Introducing the key requirements for achieving EU-wide programme change, drawing from several decades of experience in projects conducted in over 30 countries, including those partnered with the World Health Organization, governments and industry.

2) Outlining a practical tool in the format of an equity and diversity matrix designed for integrating equity and diversity perspectives developed within the JACARDI project to support implementation of 142 sub-projects in 21 partner countries.

3) A practical participatory group work based on the JACARDI equity and diversity maturity matrix, followed by a moderated discussion.

The workshop acts as a valuable platform for sharing and building collaborative knowledge across European countries and empowering participants as initiators for sustainable, more equitable, and diversity inclusive public health actions. It provides practical and concrete skills on equity and diversity that participants can apply in their work and disseminate within their organizations. The presentations will build knowledge, while group work and the moderated discussion will build skills among participants on the workshop topic.

Format of the workshop: Two presentations followed by participatory group work and a moderated discussion among workshop participants and presenters.

Key messages:

- Population diversity should be systematically mainstreamed in public health to effectively and sustainably narrow persisting health inequities.
- An equity and diversity maturity matrix can be used as a practical tool for systematic integration and monitoring of diversity perspectives in practice.

Abstract citation ID: ckae144.455
Equity and diversity maturity matrix for structured diversity inclusion in the EU JACARDI project

Natalia Skogberg

N Skogberg[1], T Spadea[2], B Armocida[3], J Zaletel[4], B Formenti[3], C Di Girolamo[5], G Onder[3], R Osborne[6,7,8]
[1]Department of Welfare, THL, Helsinki, Finland
[2]Epidemiology Unit, ASL TO3 Piedmont Region, Grugliasco, Italy
[3]ISS, Rome, Italy
[4]NIJZ, Ljubljana, Slovenia
[5]Department of Clinical and Biological Science, University of Turin, Turin, Italy
[6]Centre for Global Health and Equity, School of Health Sciences, Swinburne University, Hawthorn, Australia
[7]University of Copenhagen, Copenhagen, Denmark
[8]Sante Publique France, Paris, France
Contact: natalia.skogberg@thl.fi

Issue: There is increasing awareness on the importance of integration of cultural and ethnic diversity perspectives to reduce prevailing health inequities effectively and sustainably. There is, however, limited experience and practical tools for systematic integration of these perspectives in public health.

Description of the problem: The EU Joint Action for Cardiovascular Diseases and Diabetes (JACARDI) project, conducted 11/2023-10/2027 has developed a structured and systematic approach for integrating equity and diversity perspectives in all its 142 pilots across 21 European countries.

Results: Equity and diversity perspectives are embedded in the harmonized stepwise methodology for pilots, supported with a practical Equity and diversity maturity matrix. The maturity matrix is based on the JACARDI 4Cs Equity and diversity explanatory framework (Critical reflection; Context and data; Co-design; inclusive and accessible Communications). The content of the matrix is divided into concrete steps related to pilot's planning and implementation, each with three levels of maturity that aim at gauging how equity and diversity perspectives are applied in practice: Approaching, Meeting, Exceeding. Pilots are encouraged to strive for any of these three levels, considering their available resources and previous experiences in diversity inclusion.

Lessons: Effective and sustainable change toward more equitable and diversity inclusive practice requires seamless integration of these perspectives in other routine activities. Training and continued practical and motivational support are key for adherence to novel approaches. In addition to being a practical tool, the Equity and diversity matrix acts as a structured self-evaluation tool to monitor how equity and diversity principles are translated into practice.

Abstract citation ID: ckae144.456
Key requirements for achieving EU-wide programme change

Richard Osborne

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Issue: Across the world, thousands of projects aim for equitable improvement in health for people who are experiencing ongoing avoidable stigma, discrimination and disadvantage however very little change is often achieved.

Description of the problem: In this presentation we explore key requirements for project-level change to ensure EU-wide programme change is achieved.

Results: The two most common causes of project failure are a) the innovation is not suitable, needed or wanted (also called theory failure) or b) implementation failure. This presentation shares strategies to mitigate risks of project failure through co-design processes and communication, drawing from 30 years of experience from the entire implementation process from ideation to scale up. These experiences include projects from over 30 countries, including partnerships with the World Health Organization, governments and industry focused on health literacy, self-management, care pathways, workplace health, hospital services redesign, First Nations health and migrant health. Common success factors include balancing top-down needs with co-designed inputs and with previous preferred or good practice (which may have come from controlled trial evidence generated in different contexts). The intervention must co-implemented to serve stakeholder's needs at all levels, from citizens to decision makers.

Lessons: The United Nations (UN) and private sector apply system-wide approaches to affect large scale change. This knowledge is valuable for large public health programmes aiming to integrate equity and diversity in project processes to minimize implementation failure.

7.P. Skills building seminar: Using health impact assessment for assessing tobacco control policies

Abstract citation ID: ckae144.457

Organised by: European Burden of Disease Network, EUPHA-HIA
Chair persons: Brecht Devleesschauwer (Belgium), Piedad Martin-Olmedo (EUPHA-HIA)
Contact: Brecht.Devleesschauwer@sciensano.be

Tobacco use is the largest contributor to premature death and preventable disease in Europe. Despite decreasing tobacco use in recent years, the European Commission estimates that the number of smokers in Europe is 26% in the population, and 29% among 15-24 year olds. This persistent public health risk is amenable to policy, but targeted and effective strategies are needed. Health impact assessment (HIA) methods can aid decision-makers in exploring the consequences of policy actions on select outcomes, providing a platform for informed, evidence-based policy design. Routine data collection on risk factors including smoking and tobacco use behaviour is common and available in Europe. Analysing and valorising these data can provide a better picture of vulnerable and target groups for which tobacco use is a persistent problem, or where the attributable disease burden is particularly high. These data can form the basis for robust projections and the application of HIA methods. In addition, a number of policy strategies exist for tobacco control including changes in packaging, taxation, labelling, ingredients, creation of smoke-free environments, and restrictions on advertising. These policies have a common goal in improving tobacco control, but may lead to differential effects across age groups, populations, and different measures of tobacco use. It is thus necessary to use robust tools to understand these effects and better coordinate and plan policy. HIA methods, each with their own strengths and limitations, have been applied successfully to estimate the impact of different tobacco control measures. Novel methodologies that make use of available data, computational power, and provide a low-cost way to explore policy interventions can be an essential tool to policy planning and in particular to tackle the intractable areas of tobacco control. This skills building workshop will present two key approaches, each with their own strengths and weaknesses, that have been applied in HIA studies on tobacco control - i.e., a static approach based on the calculation of potential impact fraction, and a dynamic approach based on microsimulation models. Furthermore, the workshop will demonstrate, using two real-life examples, how policy measures can be translated into effect size estimates - which is one of the most crucial steps in any HIA. By providing a step-by-step presentation of how HIA has been applied in practice, attendees will gain unique insights in the different ways by which HIA can be used to gain insights into the relative impact of policy strategies for tobacco control.

Key messages:

- Tobacco use remains the largest contributor to preventable disease burden in Europe; a key area for analysing policies using health impact assessment.
- Attendees will gain unique insights in the different ways by which HIA can be used to gain insights into the relative impact of policy strategies for tobacco control.

Abstract citation ID: ckae144.458
Calculating potential impact fractions to assess the impact of tobacco control policies

Ute Mons

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This presentation will provide a straightforward and accessible method for evaluating the effectiveness of various tobacco control policies in reducing the smoking-associated disease burden. To estimate numbers and proportions of potentially avoidable disease cases under different policy intervention scenarios (such as cigarette tax/price increases, comprehensive marketing ban, and plain packaging), this approach entails the calculation of age- and sex-specific potential impact fractions, representing the percentage change in disease risk following changes in exposure to smoking. The approach can account for lag and latency periods between reductions in smoking prevalence and declines in disease excess risks. The future disease burden is estimated by combining data on the incidence or mortality of the disease of interest, published effect sizes of tobacco control policies, and national smoking prevalence data. Intervention scenarios are compared against a status quo scenario that assumes the continuation of recent smoking trends. The presentation will outline the approach, using the example of smoking-associated cancer, and discuss model assumptions, required data, and sensitivity analyses. This straightforward modelling framework enables the comparison of different health policy measures' impacts, providing valuable insights for policymakers and public health officials regarding the potential public health impact of tobacco control policy measures.

Abstract citation ID: ckae144.459
DYNAMO-HIA: A health impact assessment tool fit for quantifying tobacco control policy

Stefan Lhachimi

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DYNAMO-HIA is a generic, publicly-available and easy to use software tool for health impact assessments of changes in health risk-factors such as obesity, air pollution, processed meat consumption, physical activity, alcohol taxation, or smoking. The tool uses a graphic use interface, does not require programming skills, and has comparatively modest data requirements. Health outcomes that can be investigated are mortality, life expectancy, healthy-life expectancy, disability and prevalence of various chronic disease such as chronic obstructive pulmonary disease (COPD), cancer, or coronary heart diseases. DYNAMO-HIA can in principle be used for any tobacco control policy or ordinance-e.g. price increases or pictorial health warning labels-that target changes in smoking prevalence or smoking initiation/quitting rates. Past applications of DYNAMO-HIA for tobacco control policy included country studies for Belgium, Mongolia, or Korea and several comparative country studies. In this presentation we will give a general overview into the use of DYNAMO-HIA and show-case a recently published study. This study quantified the reduction in COPD burden that would occur in Italy, England and Sweden over 40 years if tobacco prices were increased by 5%, 10% and 20% over current local prices.

Abstract citation ID: ckae144.460
Populating HIA of tobacco policies with empirical evidence on behavioral response to price increases

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Performing Health Impact Assessment of tobacco policies requires to have insights into how smokers will react to policy measures such as price increases. In the Netherlands, a series of 3 substantial price increases has been implemented in 2020 (10% increase), 2023 (10% increase) and 2024 (24% increase). We performed three consecutive studies comparing the ex-ante stated preferences about behavioural response to actual and hypothetical future price increases, and compared these stated preferences with actual behaviour changes 6 months after the increase in excise tax. Two of these possible behavioural reactions actually will impact smoking prevalence or smoking intensity, e.g. stopping altogether and decreasing the number of cigarettes smoked. Other behavioural responses are less favourable and will not impact health, such as buying more and cheaper tobacco abroad and smoking less expensive brands or transferring from cigarettes to roll-your-own or e-cigarettes. For the price increases of 2020 and 2023, we have observed a substantial number of about 10% of smokers quitting successfully and about one third attempting to quit smoking. (Attempting to) quit smoking was much more prevalent among those with a more pronounced intention to stop smoking at the ex-ante measurements. At the same time, cross-border shopping increased significantly as well, with a 10 percent-point growth in the absolute amount of all tobacco consumed originating from abroad following the 10 percent price increase of April 2023. This big increase in cross-border shopping appeared to be independent of distance to the border. We conclude that every significant price increase stimulates smokers to consider to stop smoking. However, unilateral price increases in one country will eventually also stimulate smokers to buy cross-border. Behavioural data as presented should inform HIA to make them more realistic with regard to actual behaviour changes and health impacts of smoking policies.

Abstract citation ID: ckae144.461
Mind the gap: from real-world policies to health impact assessment modelling

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When conducting health impact assessments (HIA), researchers often face the challenges of trying to align as closely as possible with policy scenarios. This phase concerns the translation of real-world policies into estimates usable in models. Most of the time, researchers need to address a policy-impact gap between what is needed by the policymakers and what is believed to be reliable data fitted for the model. These mismatches can stem from differences in how exposure and outcomes are studied compared to the policy plan. By looking at a case study of the planned Belgian policy to reduce tobacco selling points, challenges during the pre-modelling phase were identified. The question of what an effect size should be and its importance in the HIA process were considered fundamental for the analysis. In particular, literature on exposure to tobacco sales points differed in outcomes, as it would target proximity to someone's home, while the policy itself focuses on the reduction of points of sale of a specific store type. Similarly, smoking behaviour can be measured in various ways, such as initiation, cessation, relapse rates, or overall smoking prevalence. The policies' effect on these various outcomes differed significantly. In this presentation, the discussion will focus on the alignment of the existing literature with the specific details outlined in the policy. We will explore the challenges that arose when existing research criteria and assumptions did not fully match the policy, taking the new Belgian tobacco plan as an example. Lastly, we will highlight the opportunity to set up monitoring systems to evaluate tobacco interventions to extract reliable estimates for HIA and strengthen evidence-based tobacco policies in the future.

7.Q. Round table: Developing public health workforce in the European Region. Cases of Ukraine, Georgia, and Azerbaijan

Abstract citation ID: ckae144.462

Organised by: WHO/Europe, WHO Country Office in Ukraine
Chair persons: Emilia Aragon De Leon (WHO/Europe), Kasia Czabanowska (ASPHER)
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In the dynamic landscape of public health, World Health Organization Regional Office for Europe (WHO) and the Association of Schools of Public Health in the European Region (ASPHER) have devised the European competency framework and the roadmap to professionalizing public health workforce (PHW) in the European region aiming to guide stakeholders with competency standards and actionable recommendations for strengthening PHW. This workshop presents actions taken in Azerbaijan, Georgia, and Ukraine to strengthen their public health workforce, showcasing how mentioned tools can be effectively applied in different contexts. The workshop aims to equip participants with practical strategies and tools to enhance the professionalization of the PHW, ultimately contributing to improved public health outcomes across the region. In Ukraine, public health system faces multifaceted challenges, ranging from epidemics to war. In 2019, Ukraine piloted a Competency Framework with key stakeholders, incorporating competencies missing in job descriptions for public health specialists. Subsequently, a review of educational programs for master's degrees in public health was conducted. Based on the Competency Framework, the first state qualification exam for master's in public health was introduced in 2021. Guided by the Roadmap, a PHW situational analysis was conducted by the WHO Country Office, and the elaboration of a national programme for the PHW development is close to completion. Furthermore, recognizing the need for capable public health leaders, a national Public Health Leadership Programme has been initiated based on the Competency Framework. In Georgia, following global trends, in 2023 the Ministries of Internally Displaced Persons, Labour, Health, and Social Protection planned to prepare a comprehensive public health human resource strategy, based on the Competency Framework, which has led to the development of a number of policy processes and platforms, including a public health human resources survey to get a better understanding of the composition of the public health workforce in the country. In Azerbaijan, within the framework of the Azerbaijan Pandemic Response Project initiated in 2022, the WHO Country Office has actively sought to bolster the capabilities of the public health workforce. Utilizing the Competency Framework, a detailed self-assessment tool was developed, enabling both current public health professionals and students to evaluate their skills across various competencies. Alongside, a Professional Learning Plan was crafted to support a holistic learning cycle of Public Health Champions, which guides them through stages of identifying learning needs, engaging in relevant activities, and critically assessing the outcomes. Each presentation will offer valuable insights for European countries on how to strengthen public health workforce, how to adapt the tools to serve national priorities, and to foster collaboration among stakeholders.

Key messages:

- The workshop aims to equip participants with tools designed by the WHO and ASPHER to enhance the professionalization of the PHW across the region.
- The workshop will contribute to exchange of PHW professionalization practices at the European level by raising awareness among the audience of how the specific tools can be used in different contexts.

Speakers/Panelists:

Nataliia Piven
WHO Country Office in Ukraine, Kyiv, Ukraine
Elene Godziashvili
National Center for Disease Control and Public Health, Tbilisi, Georgia
Halil ibrahim Durak
WHO, Baku, Azerbaijan
Olga Aleksandrova
WHO Country Office in Ukraine, Kyiv, Ukraine
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8.A. Scientific session: Engage, co-create, collaborate, transform: uniting practice and research for health innovation

Abstract citation ID: ckae144.463

Organised by: Maastricht University (Netherlands), University Hospital Ulm (Germany)
Chair persons: Sanne Gerards (Netherlands), Mathilde Crone (Netherlands)
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Background: Public health practitioners are increasingly challenged by theoretical, political, and contextual changes and innovations. To ensure that innovations are sustainable, it is important not only to include stakeholders (e.g. end-users, implementers, policy-makers), but also to actively involve them in the development, implementation and transformation of public health innovations. Participatory action research, co-creation and stakeholder engagement are proven methods to co-produce effective innovations, strengthen existing networks and promote implementation by increasing fit and applicability in practice. In this workshop, our overall aim is to bring together practitioners and researchers to improve mutual understanding and adapt practices in development, implementation and transformation of innovations.

The objectives of the workshop are: 1) to increase participants' understanding of the circumstances under which stakeholder involvement is most meaningful, and 2) to increase participants' awareness of tools, strategies or theories to overcome challenges in stakeholder involvement.

Workshop format: The workshop consists of two parts: four interactive presentations that introduce important development steps of public health innovation and a problem-based discussion using a real-life case that builds upon the presentations. Interactive presentations describe (1) Theory of Change (ToC) approach for active collaboration with stakeholders, (2) co-creation of a serious game for and with healthcare providers, (3) visualising collaboration through Social Network Analysis to improve implementation, and (4) enhancing scale up with PRACTIS and Design Thinking. During the presentations, interactive tools are used to help identify the characteristics of the workshop participants (e.g. work setting, type of stakeholders), as well as their interests and needs (e.g. challenges faced, methods used). During the second part of the workshop, a health innovation is chosen from a number of pre-selected innovations from European contexts (e.g. BOB campaign, Schools4Health, LETHE) that aligns most with participants' background and interests. Next, the main goal and known challenges within these innovations are introduced, which aids participants to formulate intermediate goals using the ToC approach. Then, they answer questions and make decisions for the discussed stages of innovation development (e.g. "Which gaps exist in the current network and how can we address them to improve collaboration?", 'What scalability challenges exist in this innovation and how can PRACTIS help identify them?"). In answering these questions, participants will share their knowledge and expertise with each other, while the chair facilitates the discussion. We are flexible in the format of the challenge-based discussion; depending on the number of attendees, we may work with a plenary discussion or smaller groups that work independently under the supervision of 1 or 2 facilitators each.

Key messages:

- Non-linear approaches are needed to take into account the complicated and changing systems in which health innovation takes place.
- Theory of change, co-creation, social network analysis, PRACTIS and design thinking offer practical guidance for stakeholder involvement in specific phases of health innovations.

Abstract citation ID: ckae144.464
A method for interactive collaboration between different actors: theory of change workshops

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It is well recognised that the involvement of different actors in health research is crucial to the success of projects and interventions, as it increases the likelihood that they will be relevant, impactful and applicable in practice. However, researchers and policy makers often lack tools for the participatory involvement of actors. One way of actively involving actors is the Theory of Change (ToC) method. A ToC is a model of a change process that describes how and why an intervention leads to the intended change or outcome in a given context. It describes the path along which change is expected to occur and provides a framework for investigating whether and how change takes place. It is a systematic methodology that can be used both prospectively and retrospectively for the planning, implementation and evaluation of interventions. The approach recognises that changes in socio-ecological systems are complex and challenging and that the causal processes are often non-linear and intertwined. A ToC workshop begins with the formulation of a clear vision for the desired change and the long-term goal of the intervention. Starting from the long-term goal, the necessary medium-term and short-term goals are then defined in a backward mapping process. Next, indicators, activities and assumptions are defined for each intermediate goal. The results of a ToC workshop can be visualised in a ToC map, which shows the causal pathways, relationships, and connections between the different components of the ToC. This visual representation helps the actors to understand the logic, connections, and assumptions underlying the ToC. This in turn facilitates a shared understanding, collaboration, and ownership among all actors involved. Overall, successful involvement of actors using the ToC method can not only enrich the research process, but ultimately also increase the health benefits of interventions and health policies.

Abstract citation ID: ckae144.465
Stakeholder involvement in the development of a serious game for and with healthcare professionals

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Increasing pressure on the quality, accessibility and affordability of Dutch health services underlines the need for integrated approaches to healthcare that include lifestyle as preventive measure. Integrated healthcare requires coordinated collaboration between healthcare providers, which is facilitated by the concept of Positive Health as a unifying language. To support primary care providers (PCP) in developing knowledge and skills related to lifestyle as prevention, interdisciplinary collaboration and the concept of Positive Health, we are developing education in the form of a serious game: Game2Connect. Co-creation by active involvement of a consortium of educational institutes, healthcare organisations, a game developer, and PCP as end-users of Game2Connect plays a key role in its development. Data from interviews with PCP (on barriers and facilitators for health-promoting and collaborative behaviours), healthcare recipients (on input for case studies) and consortium meetings were incorporated into an initial version of Game2Connect, which is currently being piloted to assess and improve its utility and usability. Pilot sessions included an observed playthrough, followed by a usability questionnaire and a semi-structured group discussion. So far, 2 pilot sessions were held with consortium members ($n = 16$), and 3 sessions were held with PCP ($n = 22$). Learning indicators (e.g. PCP clarifying fellow players' misconceptions) were observed in all sessions. Usability scores indicate high levels of challenge, content relevance, and positive affect, ranging between 3.3-3.6 on a 4-point scale. Qualitative feedback from group discussions resulted in the development of new case studies to appeal to a broader range of PCP, and the adjustment of a goal-setting exercise as a game component to encourage its use. These results suggest that serious gaming may be a viable and engaging method to educate PCP, especially when developed in active collaboration with stakeholders.

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Improving implementation of health interventions among ECEC organisations: a social network analysis

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The environment wherein a child grows up determines many health and life outcomes of the child. The early childhood education and care (ECEC) is an important setting for children which offers possibilities for health promotion activities. A learning network with professionals from ECEC organisations in South-Limburg, the Netherlands is established, aimed at sharing health promotion 'best practices'. This study examined the network structure of the learning network and of ECEC locations regarding health topics such as nutrition, physical activity and sun protection. A mixed-methods design was adopted. An online-questionnaire was used to examine the relationships of the members of the learning network ($N = 6$) and ECEC locations ($N = 59$) between these organisations and with organisations related to the health topics. Data was analysed and visualised using a social network analysis (SNA) in UCINET. Thereafter, semi-structured interviews were held with the members of the learning network ($N = 6$), to discuss the network structure and possible improvements of the network. The SNA showed a weak network structure for the learning network and ECEC locations. Connections were mostly related to organisations in the field of nutrition and physical activity. This implied that health interventions related to sun protection and green environments were not implemented to the same extent as nutrition and physical activity. The interviews provided insight into the underlying reasons for (the lack of) certain connections. Overall, the members were satisfied with the quality and quantity of their current collaborations. The SNA and interviews indicated that the collaboration between ECEC organisations and organisations related to other health topics like green environment or sun protection could be improved. Therefore, it is recommended that ECEC organisations should engage in collaborations with organisations in these domains.

Abstract citation ID: ckae144.467
Involving stakeholders in planning the scale-up of a health promotion intervention: a practical example

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Scaling up health promotion interventions is complex. Despite the potential effects and impact on society, factors related to the intervention itself, potential adopters or implementers, and contextual factors can hinder or promote widespread scale-up. Frameworks such as the PRACTIS (PRACTical planning for Implementation and Scale-up) guide and approaches such as Design Thinking offer practical guidance for researchers to increase the likelihood for successful scale up. SuperFIT is an integrated intervention approach aiming to promote healthy energy balance-related behaviours in children aged 2-4 years. To date, SuperFIT has been implemented in over one hundred childcare locations, reaching at least 1800 children per day. A local PA-providing organisation is responsible for the implementation of SuperFIT. The aim of this project was twofold: to identify the needs of future adopters and implementers of SuperFIT (i.e. What information and materials do you need?) and to develop the relevant tools and implementation strategies. We used a co-creation approach, combining stakeholder interviews ($n = 6$) based on the PRACTIS guide to identify gaps and needs, with creative sessions (participants $n = 8$) and multiple thinking-out-loud sessions (participants $n = 6$) to generate solutions that would be relevant to implementers. Stakeholders included researchers with experience in SuperFIT and implementation science, implementers and managers of the current and new PA-providing organisations. Gaps were identified and summarised under three main themes: 1) a lack of clarity what SuperFIT entails, 2) SuperFIT adaptations to new implementation contexts, 3) the skills and implementation capacity required to 'train the trainer'. Creative sessions assisted the generation of prototype tools. We have learnt the value of patience and perseverance, as some obstacles need time to be overcome.

8.B. Scientific session: Strengthening health information systems in the European Region

Abstract citation ID: ckae144.468

Organised by: WHO/Europe, EC
Chair persons: Natasha Azzopardi Muscat (WHO/Europe)
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Strong health information systems (HIS) are essential for robust, evidence-informed policymaking and decision making in all levels of healthcare. The COVID-19 pandemic underscored the vital importance of HIS, but also highlighted flaws and weaknesses across HIS in Europe. Common HIS challenges include limited resources and capacity; insufficient coordination and collaboration between HIS stakeholders, leading to fragmentation and problems with interoperability; lack of central governance; and limited use of health information for decision-making. Both at the level of the WHO Regional Office for Europe (WHO/Europe) and the European Commission, policies and strategies are being implemented to support Member States in strengthening their HIS, thereby improving the availability of high quality, timely data for evidence-informed decision making, both at the country and international level. Supporting the further digitalization of HIS is an important element in this. In 2023, WHO/Europe and the European Commission joined forces in the field of HIS strengthening. This workshop will inform participants about current and future capacity building tools and activities that will be implemented under the umbrella of the EU-funded action 'Supporting Member States in the WHO European Region in strengthening HIS and boosting health data governance and interoperability'. It will explain the policy as well as situation-on-the-ground contexts in which the action will be implemented. The workshop will start with a (1) presentation by WHO/Europe on the current HIS situation in the Region and what are the main priority areas in WHO's work for the coming years. After that, (2) the European Commission will give more information on the above-mentioned EU-funded action and the related EU policy landscape, most notably the European Health Data Space (EHDS). Next, (3) WHO/Europe will present their catalogue of capacity building tools and activities, and share experiences with implementing these. Finally, (4) HIS modernization cases with enabling factors and challenges will be presented based on different countries' real life experiences, illustrating the impact of HIS strengthening activities at the country level. Workshop participants will get a comprehensive overview of available HIS strengthening tools and activities in the European Region. This will help them in selecting and applying tools for strengthening their own national or regional HIS, and ensuring their HIS is prepared for aligning with the EHDS and other important policies and strategies. This will contribute to sustainable and future-proof HIS across Europe. During the workshop, there will be ample time for questions and discussion. In the discussion, participants will be asked whether they have any HIS strengthening needs that are not yet covered in the current package of tools and activities. This will help WHO and the European Commission to further harmonise their efforts with what is needed on the ground.

Key messages:

- Despite investments in HIS following the COVID-19 pandemic, many challenges remain, which are often similar across European countries.
- WHO/Europe and the European Commission have joined forces to strengthen HIS and boost health data governance and interoperability, while leveraging EHDS developments.

Abstract citation ID: ckae144.469
The status of health information systems and digital transformation in the European Region

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Although there have been investments in health information systems (HIS) and digitalization, WHO/Europe's work with Member States (MS) shows that much can be improved still. Typically, there is a strong focus on data collection, but less on analysis and knowledge translation, resulting in available data not being optimally used to support decision making. Standards for data exchange and interoperability have not yet been fully implemented. Efforts are underway to train healthcare professionals, yet only half of MS have developed policies for digital health literacy. Fewer still have implemented a comprehensive digital inclusion plan, leaving disadvantaged populations at risk of falling behind. In line with the traditionally strong focus on HIS strengthening in WHO's work, the European Programme of Work 2020-2025 (EPW) emphasises the need for MS to improve and modernise their HIS to ensure that decisions are data driven. One of the EPW flagship initiatives is Empowerment through Digital Health, promoting the leveraging and scaling up of digital transformation for better health. The Regional digital health action plan for the WHO European Region 2023-2030 outlines the strategic actions needed to achieve this, while fully respecting the values of equity, solidarity and human rights. Collaboration with MS and international partners is vital in this work. WHO/Europe has established several MS-driven health information networks in the past, most notably the European Health Information Initiative (the EHII). The EHII in 2023 has made a restart in the form of the European Health Information Network (HIN). The HIN will guide the work under the EU-funded action 'Supporting Member States in the WHO European Region in strengthening health information systems and boosting health data governance', which will be implemented by WHO/Europe. This strong European Commission and WHO/Europe partnership will be a main catalyst for HIS improvement in the Region the coming years.

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The EU-funded action to strengthen health information systems

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The European Commission initiative to build a European Health Union recognizes the need to address in a coordinated fashion the effects of the pandemic in health and social sectors and to strengthen the resilience, accessibility and effectiveness of health systems through co-operation, best practice exchange, training schemes, technical support and improved data and knowledge management. To make the most of the potential of health data, the European Health Data Space (EHDS) is being established as one of the central building blocks of a strong European Health Union. The EHDS sets out rules, common standards, infrastructures and a governance framework for the use of electronic health data for healthcare, research, innovation and policy making. In line with these policy goals, the European Commission is funding the Action 'Supporting Member States in the WHO European Region in strengthening health information systems and boosting health data governance'. This Action will be implemented by WHO Regional Office for Europe and aims to boost the use and reuse of health data, including by promoting, where possible, the principles and solutions developed and implemented for the EHDS. It will also contribute to the objectives of the EU Global Health Strategy to improve global health security and deliver better health for all in a changing world. In addition, the Action is designed to strengthen countries' capacity across critical programmatic areas of health data and digital health such as data quality (including appropriate data management and analytics) and digital health literacy across the 53 Member States in the WHO European region. The main objectives of the Action are to establish a Health Information Network for strategic guidance; and develop and implement tools and capacities to strengthen health information systems, health data governance, data quality and interoperability in countries.

Abstract citation ID: ckae144.471
WHO/Europe tools for strengthening health information systems

Keyrellous Adib

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WHO/Europe offers different tools and capacity building activities to support Member States (MS) in strengthening their health information systems (HIS). These range from assessment methodologies and guidance documents to situation reports and workshops and trainings. The HIS assessment method of WHO/Europe provides an overview of the performance of the entire HIS in an MS. As such, this is often applied as a starting point for HIS strengthening activities in a country, and ideally repeated every few years to measure progress. Next to an assessment of the overall HIS, WHO/Europe also has methods for assessing specific HIS aspects, such as cybersecurity preparedness and GIS capacity. There are also several tools and capacity building activities that specifically focus on strengthening HIS digitalisation (d-HIS). For example, there is a modular d-HIS training, the programme of which can be adapted to meet specific MS needs. This also applies to the population health monitoring training that is available for interested MS. In addition, WHO/Europe has published a range of guidance documents, ranging from a comprehensive d-HIS strengthening manual to guidance on how to write an impactful health report, and guidance on how to apply data protection principles in public health. Finally, WHO/Europe supports HIS strengthening by making Regional and country-level situation reports, and by writing and contributing to scientific papers. In this presentation, first a general overview of available types of HIS strengthening tools and activities will be provided, after which the available tools and capacity building related to data protection and cybersecurity will be presented in more detail, because of the high interest WHO/Europe encounters for these topics in the Region currently.

Abstract citation ID: ckae144.472
Experiences from the European Region: case studies and scenarios to inform ways forward in digital health

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Member States in the WHO European Region face similar challenges when it comes to strengthening their HIS and implementing digital health solutions. From WHO/Europe's work with its Member States, several important preconditions have become apparent for successful and sustainable digital transformation. Firstly, the importance of recognising that implementing digital tools is not a one-off investment, but that this takes a long-term vision including long-term budgeting. Having business continuity plans also is a key element of sustainable implementation of digital tools, that is often not adequately addressed in practice. Secondly, the importance of comprehensive strategic planning. Implementing digital tools is not only about software and hardware, but also about people and processes. Here it is also crucial for policymakers to understand that, to be able to harvest the benefits of data that are gathered by means of digital tools, resources for data processing and analysis also need to be made available. Last but not least, an important precondition for successful digital transformation is stakeholder involvement. Often, new software is developed without adequately involving the end-user, resulting in for example apps that do not meet patients' needs. Or in electronic health record systems that are not user-friendly for the healthcare staff that need to enter the data, with incomplete and low quality information as a consequence. Stakeholder involvement is essential in strategic planning for digital health as well. Think for example about standardization and accreditation agencies, and institutes that will be secondary users of data for statistics and research. In this presentation, several case studies from across the European Region will be presented, illustrating how digital transformation in health can be successfully and sustainably implemented.

8.C. Scientific session: Health system resilience: A Planetary Health perspective

Abstract citation ID: ckae144.473

Organised by: EUPHA-ENV

Chair persons: Andrea Schmidt (Austria), Angelique Mavrodaris (UK)

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Planetary Health is a collective and unifying approach to balance the interlinkages between human health, political, economic and social systems as well as the natural systems of our planet, the importance of which is growing in the context of climate change in European countries and beyond. Yet, there is a dearth of of research linking Planetary Health to health systems' resilience, particularly from a public health lens. With the number of studies growing regarding impacts of climate change on health, the question remains how health systems need to be prepared, focusing for example on the emergence of infectious diseases as well as the triple crises of biodiversity loss, pollution and climate change. In addition, tools to assess climate-related risks developed at international level, such as the vulnerability, adaptation and capacity assessment developed by the World Health Organization (WHO) have rarely been piloted in European countries. In this workshop, firstly evidence is presented on the status quo of how climate change impacts health and emerging infections in Europe and at global level. Secondly, the workshop provides insights into how tools to assess vulnerability and resilience of health systems in the context of climate change may be used in the European context. Thirdly, resilience is assessed against evidence emerging from the triple environmental crises of biodiversity loss, pollution and climate change.

Key messages:

- In a planetary health lens, using mixed methods to consider climate change vulnerability of different population groups and adaptation potentials are key to address current complex health challenges.
- Synergistic solutions and joint working across climate and health offer opportunities for greater health system resilience and population health impact.

Abstract citation ID: ckae144.474
Impacts of long-term climate change on human health: a global scoping review

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Introduction: Research output on climate change and human health is growing rapidly. This can make it difficult to find and use relevant information to develop public health action.

Methods: We present a global scoping review of the rapidly growing quantitative research output on long-term climate change and human health. We searched Scopus, Embase, and PubMed for quantitative, English language literature published between January 2000 and June 2021 that referenced climate change and human health in titles, abstracts, or keywords.

Results: From 36,956 publications we identified 754 relevant studies. Europe, the Americas, and the Western Pacific were studied much more often than other WHO regions. Research on temperature and vectors accounted for 70% of all included publications. Malaria, diarrheal diseases, and cardiovascular diseases were the most studied specific health outcomes. We found very few studies on non-communicable diseases in low- and middle-income countries. Retrospective publications (153) showed effects of climate change are already occurring worldwide. Most studies on tick-borne encephalitis, malaria, and lower respiratory infections associated with air pollution found impacts caused by climate change have increased. The strongest attribution of climate change was found for heat-related impacts. In prospective publications (626) diarrheal diseases, and impacts associated with heat and chemical air pollution were most consistently projected to increase. Future vector-borne disease impacts were projected to be highly location specific. Some studies demonstrated adaptation can effectively reduce impacts, while noting that capacity to adapt differs greatly between population groups.

Conclusions: Our findings underline climate change impacts are diverse and complex. Future research should prioritize the relatively understudied regions most vulnerable to climate change, such as Africa, and impacts beyond those related to temperature and vector-borne diseases.

Abstract citation ID: ckae144.475
Climate change and emerging infections: Risks, adaptation and response

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Background: Weather and changing climate are key drivers of the emergence, re-emergence and spread of infectious diseases globally.

However, approaches to emerging infections and climate strategies are still largely being developed separately missing the opportunities for integrated climate adaptation actions to address infectious diseases.

Description: To inform the development of the UK national emerging infectious diseases plan, a literature review of the current and projected risks from extreme weather events and climate change on emerging infections in the UK is currently underway. This will support further work examining and co-designing adaptation options in the context of preparedness and response to emerging infections.

Results: Key preliminary findings from the literature review have indicated risks predominantly from evolving patterns of vector borne diseases as climatic conditions and habitat suitability of pathogens change. Changing temperatures and hotter summer temperatures have been associated with changing food-borne infection patterns. Further risks driven by extreme weather, including flooding and droughts, could perpetuate changes in water-borne infection patterns. Adaptation actions focussed on these infectious disease groups are currently under review and will cover risk assessment, data and surveillance, preparedness and response.

Lessons: This work integrates climate action with action on emerging infectious diseases. By examining the evidence on climate sensitive infections and co-designing solutions across teams, awareness is being raised and relationships and infrastructures built to better prepare and respond to both fundamental global public health challenges.

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Climate change and health vulnerability assessments to increase regional climate resilience

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Background: The impacts of climate change on health and healthcare systems exhibit complex interrelationships, varying across time and space. Population groups already disadvantaged due to their demographics, health, socioeconomic status, or geographical location tend to be particularly vulnerable to climate-related health risks. Our work aims to develop a method for a systematic quantitative vulnerability assessment to make regional vulnerabilities comparatively measurable.

Methods: Building on the WHO framework on Climate Change and Health Vulnerability and Adaptation Assessment (2021) a data mapping process was carried out to identify and validate vulnerability factors and quantitative indicators on a small-scale spatial resolution for the five dimensions: demographic, socioeconomic, biological/health, sociopolitical, and geographic/climate. Regional vulnerability scores for each indicator were calculated and visualized as geographic maps and circular barplots to allow for easily understandable interpretation.

Results: A set of 25 quantitative vulnerability indicators from a multitude of data sources - combining register data, survey data, and geospatial data - was compiled. Main challenges were the identification of sociopolitical vulnerability factors suitable for Austria and data availability on a small-scale level. The indicator set was used to identify regions that are particularly vulnerable due to their population composition, disease burden, and geographical location (e.g. regions in Eastern Austria with high shares of persons < 65 years of age, unemployment, and heat days).

Conclusions: Systematically assessing vulnerabilities in key dimensions is central to identifying regionally specific pressure points, allowing for a quantitative baseline to derive adequate and tailored climate change adaptation measures to sustain future health. Systematic assessment provides essential insights for policymakers, public health officials, and disaster management agencies.

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Climate change adaptation measures in the context of health promotion using participatory foresight

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Issue/problem: Climate change is regarded as a big threat to human health (WHO 2023), requiring action to prepare our health systems. Using participatory foresight approach has the potential to increase capacities of communities and to sustain future health. The process is easily transferable to other regions or countries across Europe. The work is part of the Austrian “Climate-Resilience-Check Health for regions and municipalities”.

Description of the problem: We present an innovative qualitative method to contribute to a climate change and health vulnerability and adaptation assessment following WHO’s guidelines. Questions answered by the project were: • What measures can be taken to shape the regions’ potential for a health-promoting lifestyle and to increase climate resilience? • Does participatory foresight represent a well-suited method to develop climate adaptation measures which address local needs? Taking place between 10/23 to 12/23, the participatory foresight process consisted of (1) a foresight-workshop facilitating development of adaptation measures through the creation of personas and (2) intervention boards, which gave the broader population the opportunity to vote for measures developed in the workshop. The aim of the approach was to identify measures that receive approval within the population.

Results: The participatory foresight process highlighted the local populations’ wish of revitalizing village centers to strengthen social cohesion. Particular emphasis was placed on the establishment of a community center and the expansion of daycare services.

Lessons: The process will be conducted in further regions as part of the Climate-Resilience-Check Health for Austrian regions and provides lessons of good practice for roll-out across European countries aiming to bridge efforts for climate adaptation and health promotion at regional levels.

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How are the three environmental threats challenging health systems’ resilience?

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Background: Known avoidable environmental risks cause about one quarter of all deaths and disease burden worldwide, amounting to at least a steady 13 million deaths each year. Indeed, diseases caused by the environment weigh heavily on health systems. These not only harm directly human health increasing the burden of disease but also potentiate other threats, by acting as drivers (e.g. pandemics, antimicrobial resistance). In addition, the increased burden due to these environmental threats also put in risk the capacity of health systems to adapt to the new healthcare needs and to provide a proper answer to the diseases caused by other health determinants.

Methods: Based on a review of the literature, the presentation addresses the question of potential options in public health climate action at the interface of environmental sustainability and health systems sustainability and resilience. It identifies possible priority areas in order to guarantee environmental and healthcare sustainability.

Results: Approaches that focus on treatment of individual diseases rather than improvement of environmental determinants of health will be insufficient to tackle the triple environmental crises of climate change, biodiversity loss and pollution. Single-determinant approaches are unlikely to achieve expected improvements, given the complex interaction of environmental factors.

Conclusions: Approaches that are more integrated are required to address the root causes of disease and guarantee health systems sustainability, which are often defined by policies in key sectors other than health, such as the environment. Multi-sectoral actions are needed to prevent and mitigate the threats to human health from the ongoing and interconnected environmental crises of climate change, biodiversity loss and pollution, contributing to a Planetary Health perspective on health systems' resilience.

8.D. Scientific session: Equitable Immunization: Leveraging Prisons for Vaccination Equity in Europe

Abstract citation ID: ckae144.479

Organised by: University of Pisa (Italy), EUPHA-IDC
Chair persons: Filipa Alves da Costa (WHO/Europe), Heino Stöver (Germany)
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Addressing low vaccine coverage is a pressing public health concern in Europe, where pockets of unvaccinated individuals persist despite ongoing efforts. The European region sees an estimated 1.4 million individuals detained on any given day, with a significantly higher number passing through prisons annually due to high turnover rates. Those experiencing incarceration often come from socially marginalized and disadvantaged groups, facing a multitude of health challenges including non-communicable diseases, infectious diseases, mental illness, cognitive disabilities, and substance dependence. Despite their elevated health needs, individuals in prison frequently encounter barriers to accessing healthcare services, including preventive measures such as vaccination. Available but limited data suggest that individuals entering the prison system are often under-immunized, particularly against Hepatitis B Virus (HBV), influenza, measles, mumps, rubella (MMR), and pneumococci. Unfortunately, vaccination services within prisons are often insufficient, typically being provided according to national schedules or in response to outbreaks of vaccine-preventable diseases (VPDs). It's crucial to distinguish between the availability of vaccination services and actual coverage, as the modalities of vaccination offerings vary across the region. While individuals in prison are recognized as a target group for HBV vaccination, the methods of offering vaccines may differ based on factors such as age or risk group. Nevertheless, systematic implementation of HBV vaccination in prisons has shown clear benefits for both incarcerated individuals and the wider community. Given the significance of vaccinations in preventing diseases like HBV and human papillomavirus (HPV), which are linked to cancer, initiatives like the Europe Beating Cancer Plan and the European Council Recommendation on vaccine-preventable cancer emphasize their importance. Prisons can serve as a strategic point for delivering comprehensive healthcare and vaccination services to incarcerated individuals, yet routine data on vaccination coverage at entry and uptake during incarceration are often lacking, hindering effective health planning. To address this public health challenge, the 'Reaching the hard-to-reach: Increasing access and vaccine uptake among prison population in Europe' (RISE-Vac) project consortium has been formed. This collaborative effort brings together diverse expertise and established networks in the field of prison health, reflecting the varied epidemiological and structural landscapes across Europe. The objective of this workshop is to showcase recent research findings, evidence-based practices, and policy recommendations aimed at enhancing vaccination equity in the European region. By sharing insights and best practices, we aim to bolster efforts to improve vaccine access and uptake among incarcerated populations, ultimately contributing to broader public health goals.

Key messages:

- Prison health is public health: vaccination services in prison are essential to achieve immunization targets in Europe.
- Maximizing inter-sectoral collaboration is crucial for bridging the gap in vaccination access and uptake among people living in prison in Europe.

Abstract citation ID: ckae144.480
Whole of prison approach to vaccination: co-development of information materials for people living in prison

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Enhancing vaccination literacy is pivotal in addressing hesitancy, especially among incarcerated populations who may lack regular access to health information, thus ensuring health equity. Supported by the European Union, the RISE-Vac project endeavours to bolster vaccine literacy, accessibility, and uptake within European prisons. To discern vaccination knowledge gaps and preferences for information dissemination, consultations were conducted with incarcerated individuals in the United Kingdom (via the Prisoner Policy Network), France, and Moldova. A total of 344 responses were garnered: 224 from the UK, 70 from France, and 50 from Moldova. In addition a focus group was conducted in the UK. The key themes that emerged were common across the 3 participating countries: views of vaccination, prior knowledge about vaccines, areas of appetite for learning, availability of reliable information, and preferred mechanism for information sharing. Participants were particularly interested in learning about the effectiveness, side effects, and manufacturing of vaccines. Their invaluable input informed the creation of educational materials, notably a brochure slated for pilot testing in European prisons and a video clip. Notably, individuals with lived prison experience were actively engaged at every phase of this initiative, ensuring its relevance and efficacy.

Abstract citation ID: ckae144.481

Assessing vaccine hesitancy and vaccine literacy in the European prison population: a multicenter repeated cross-sectional study

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The study aimed to quantify vaccine hesitancy and vaccine literacy in prison populations and assess their correlation prior and after the implementation of training and information activities targeting PLP. A repeated cross-sectional observational study was conducted in 13 prisons of 4 European countries prior and after the implementation of a co-developed training package. The study sample included 847 people living in prison in the baseline round. The second round is currently ongoing. Through a structured questionnaire vaccine hesitancy, vaccine literacy, general health literacy, previous vaccine refusal history and socio-demographic characteristics of participants were assessed. Exploratory factor analysis was used to extract three independent components of vaccine hesitancy. Logistic regression was applied to assess the association between previous vaccine refusal and vaccine hesitancy; multiple linear regression was applied to assess the association between vaccine hesitancy and vaccine literacy and general health literacy. All analyses were adjusted for socio-demographic variables. In the baseline round, we identified three independent components of vaccine hesitancy explaining 49% of the total variance: Mistrust (proportion of the variance explained, 27%), Concern (14%) and Conspiracy (8%). All the components were associated with previous vaccine refusal (p-value <0.001) and presented very good internal consistency. Young participants presented the highest levels of vaccine hesitancy; migrants had the lower levels of Mistrust and the higher level of Concern; all three factors were lower among participants with the highest degree of academic education. Mistrust and Concern were inversely associated with vaccine literacy while all three subscales were associated with general health literacy (all p-values <0.001).

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Introducing vaccination services in prison settings: case study from Moldova

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Introducing vaccination services within prison settings presents a multifaceted challenge and opportunity, particularly evident in the case of Moldova. This Eastern European nation grapples with various socio-economic and healthcare disparities, with its prison population often experiencing heightened health vulnerabilities. Amidst such complexities, the implementation of vaccination services emerges as a crucial strategy not only to safeguard the health of incarcerated individuals but also to contribute to broader public health goals. Moldova's journey in this regard reflects a commitment to advancing preventive healthcare within its correctional facilities. The introduction of vaccination services in prisons necessitated a comprehensive approach, encompassing policy development, infrastructure enhancement, staff training, and community engagement. Infrastructure enhancement was imperative to ensure the provision of vaccination services in a safe, efficient, and dignified manner within prison settings. This involved the establishment of designated vaccination areas equipped with the necessary medical supplies and equipment. Staff training emerged as a cornerstone of the initiative, empowering healthcare professionals working within prisons with the knowledge, skills, and confidence to deliver vaccination services effectively. Training programs encompassed various aspects, including vaccine administration, adverse event management, and communication strategies tailored to the specific needs of incarcerated individuals. Collaboration with people living in prison facilitated the dissemination of accurate information, addressed concerns, and encouraged participation in vaccination programs. During the period 2021-2023 7454 doses of antiCOVID-19, 1298 doses of anti-Flu vaccine, 3083 doses of anti-HBV vaccines were administered.

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Advancing Public Health Equity through Expanded Vaccination Services in prison: case studies from Italy and France

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In Montpellier prison in France and San Vittore remand house in Italy, the provision of expanded, age-appropriate, coercion-free, and tailored vaccination services to PLP has emerged as a cornerstone in improving health outcomes within prison settings. The implementation of life course vaccination programs required the full integration of prison health into public health systems building on existing vaccination services covering HBV, flu and COVID-19. In San Vittore, a vaccination clinic aimed at people living in prison was set-up. Universal vaccination status assessment and vaccination catch-up was introduced targeting people admitted into prison. The vaccination clinic-related activities included information and awareness sessions on vaccination and health literacy offered regularly to PLP: increased vaccination knowledge is effective to enhance uptake. The vaccination clinic team consisted of infectious diseases physicians and a health assistant with an anthropological background, who ran the information and awareness sessions combining and adapting core content on vaccination with individual and community social and cultural contexts. Besides seasonal flu vaccination and anti-SARS-CoV-2 immunisation campaigns, vaccinations against pneumococcal pneumonia and herpes zoster were also offered to older and fragile individuals as per national immunization plan. One of the priority objectives of the vaccination clinic was the increase in vaccination coverage against HBV and HPV, not only as a tool for the prevention of infectious diseases, but as an innovative and effective tool of cancer prevention. As part of a more ambitious program to protect sexual health in prison and related to updated screening tools for the early diagnosis of lesions due to HPV infection, vaccination against HPV was also offered as part of a health empowerment project tailored to women in detention, with the aim of building self-awareness of their own health needs.

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Driving policy changes: RISE-Vac lessons learnt and recommendations

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The RISE-Vac project consortium applied evidence-based public health methods to collate, assess, and analyze all the evidence generated through project activities, including literature review and prospective data collection on quantitative and qualitative aspects of vaccine services implementation in prison settings. A multi-sectorial and inter-disciplinary group of experts was set-up including health professionals, statisticians, social scientists and people with lived experience from civil society organisations, health services, prison administrations, academia and international agencies. A set of recommendations, advice, and policy options on how to increase vaccine uptake, targeted to people in prison and using a citizen-centred approach, were developed and tailored to specific needs profiles of different prison population subgroups. Vaccinations to be considered in prison settings were grouped according to target population and/or public health objective into: Seasonal vaccinations and vaccination during outbreak; Childhood life-course vaccinations (booster doses); Vaccinations for cancer prevention; Vaccination for older population groups and people with chronic conditions. In consideration of the diversity of the countries participating in the project, their epidemiological context and available resources and infrastructures, a multi-tiered approach for the development and implementation of models for vaccination services implementation in prison settings was devised, encompassing core vaccinations, such as HBV, Flu, COVID-19 and tetanus, as well as expanded vaccination offer to respond to enhanced health needs and to promote equity of health outcomes, including e.g. HPV vaccination.

8.E. Skills building seminar: Methods for measuring the true health cost of pollution

Abstract citation ID: ckae144.485

Organised by: BEST-COST, EUPHA-PHMR, -ECO
Chair persons: Brecht Devleesschauwer (Belgium), Hanna Tolonen (EUPHA-PHMR)
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Healthy environments are essential for physical and mental well-being. Air pollution is considered to be one of the most significant environmental risk factors for ill health and premature death within the European Union. Poor air and noise quality have been linked to the exacerbation of symptoms, hospital admissions, and even premature deaths, especially for those with cardiorespiratory diseases. The associated medical costs and productivity losses therefore also impose a large economic cost. Exposure to environmental stressors disproportionately affects socially disadvantaged groups, and therefore contributes to the large socioeconomic inequities in health observed persistently in Europe. The EU has prioritised action on causes of pollution. For example, its Green Deal outlines ambitious plans to address climate challenges such as pollution and align air quality ambitions closer to the World Health Organization guidelines. Likewise, the European Environmental Agency routinely monitors the mortality burden associated with air pollution, while the impact of environmental noise on European citizens is examined through the Environmental Noise Directive. While in the political scene there is interest to advance the reduction of pollution, efforts are hindered by the lack of an harmonized methodology to quantify the socioeconomic cost of environmental stressors. Currently, researchers working with the burden of disease framework face many challenges in its application in the context of environmental stressors. Among others, these challenges include unmet data needs and major lack of transparency in methodological developments. In this skills-building seminar, we will outline an integrated approach for measuring the true health cost of pollution. This approach is currently being trialled in the EU-funded BEST-COST project, which sets out to improve methodologies for understanding the socioeconomic cost of environmental stressors, focusing on air and noise pollution. The project brings together a consortium of 17 partners from Europe and the USA, and is led by Sciensano, the Belgian institute for health. Through a synergy of theoretical outlines and real-life examples, seminar participants will gain methodological insights in the three key components of this integrated approach - i.e., the quantification of the health burden of environmental stressors via comparative risk assessment, the monetization of Disability-Adjusted Life Years to assess economic impact, and the quantification of environmental health inequalities via a novel area-level based framework.

Key messages:

- There are significant unmet needs with respect to both data and methodologies for quantifying the socioeconomic cost of environmental stressors.
- We outline an integrated approach for measuring the true health cost of pollution, combining health burden, economic burden, and environmental health inequalities.

Abstract citation ID: ckae144.486
Quantifying the health burden of environmental stressors

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The Burden of Disease (BoD) concept has gained increasing importance for health risk assessments, driven by the World Health Organization (WHO) and the Global Burden of Disease (GBD) studies. BoD utilizes the disability-adjusted life year (DALY) to express the population health impact of a disease, injury or risk factor. This information is essential for priority-setting in health, monitoring and evaluation of preventive interventions. However, calculating DALYs, particularly DALYs attributable to risk factors, requires a range of choices with regards to input data and methodological aspects. In this presentation we will focus on comparative risk assessment (CRA), a frequently used method to calculate the attribution of DALYs to risk factors. CRA consists of determining outcomes that are associated with a certain risk factor and relative risks of the identified outcomes as a function of exposure. This information is usually derived from systematic literature review(s). Next, information on the level of exposure in a population is required, usually by age, sex, location and/or year, and usually using a range of data sources on level of exposure. Additionally, the level of exposure associated with a minimum risk is assessed. Population attributable fractions (PAFs) are then multiplied by the relevant outcome quantity for each population subgroup to calculate the number of DALYs attributable to risk factors. Finally, mediation of risk factors through other risk factors can be taken into account. Knowledge of and uniformity in methods used to perform CRAs will facilitate the coherence and usability of estimates of the health impacts of risk factors and strengthen evidence-based decision-making in health policy. In this presentation, we will introduce the CRA approach and outline a number of innovations that are being driven by the BEST-COST project, including new methods for correlated outdoor exposures and for outdoor exposures penetrating to indoor environments.

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Measuring the economic impact of environmental stressors on health

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Environmental stressors are an important source of burden of disease worldwide. The accurate economic evaluation of health hazards caused by environmental stressors guide the design of more effective and comprehensive public policies. However, guidelines on cost assessment, monetisation and discounting methodologies are scarce. Therefore, several different methodologies are applied in multiple contexts, making comparability difficult. Within BEST-COST, methods for monetising health hazards caused by environmental stressors are identified and described based on a systematic review approach. An electronic search was performed in Medline, Scopus, Web of Science and Econlit, alongside with grey literature and citation and reference tracking identifying all relevant studies. Different methods are identified, such as value of a statistical life (VSL) and value of a life year (VOLY), as well as specificities from data collection to modelling for the economic evaluation. These methods may be categorised based on their approach (market-based or non-market based), perspective of analysis (payer, patient or societal) and health measures. In this presentation, the various key methodologies to assess the economic impact of environmental stressors on health will be introduced and demonstrated. Through these insights, workshop participants will be supported in performing health impact assessments and cost-benefit analyses, which play a pivotal role in informing public policies that impact environment and subsequently health.

Abstract citation ID: ckae144.488
Integrating social inequalities in the burden of environmental stressors

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In the process of designing equitable policies to reduce the burden of environmental stressors, it needs to be taken into consideration that socially disadvantaged communities are disproportionately exposed to environmental pollutants. These environmental health inequalities are currently however not routinely taken into account when designing mitigation measures, amongst others because of the absence of a coherent methodological framework. Within the BEST-COST project, an innovative framework for assessing social inequalities in the socioeconomic impact of environmental stressors will be developed and implemented. In particular, a novel index of multiple deprivation was developed. This includes indicators that are considered to be temporally and culturally valid for assessing social and material deprivation in Europe. In particular the new index was developed to make comparison across different European countries and to be used at a small geographical level. Within the workshop we will discuss the stepwise framework developed, starting from the results of a scoping review conducted to gather information methodological approaches used in the currently existing MDIs developed in Europe. The results of the scoping review were used to make informative decisions about the selection of indicators and other relevant methods (e.g. weighting). The construction of the composite score for the use within BEST-COST was evaluated also considering the data availability of the selected indicators at a small geographical level (i.e. LAU2) for the case-study countries: Belgium, Estonia, France, Norway and Portugal. Initial results of the quantification of social inequalities in the burden of environmental will be presented. Participants to the workshop will be able to understand the advantages and challenges of this kind of exercises with specific examples.

8.F. Scientific session: Promoting Public Health with healthy smart buildings

Abstract citation ID: ckae144.489

Organised by: EUPHA-URB, -PMH, -ENV
Chair persons: Jutta Lindert (EUPHA-PMH), Stefano Capolongo (EUPHA-URB)
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The Workshop titled “Promoting Public Health with healthy smart buildings” - proposed and developed by the three EUPHA Section: Urban Public Health (URB), Public Mental Health (MEN) and Environmental Health (ENV) - is aimed to foster the dialogue between designers (architects and urban planners), Public Health experts (operators, professionals and epidemiologists), policy/decision makers and buildings’ users, to establish a multidisciplinary approach for understanding together how to create and manage healthy living indoor environments (both housing and complex constructions/public buildings). According to the main Conference topic “Sailing the waves of European public health: exploring a sea of innovation”, the workshop mainly addresses both the “Climate emergency/Environment and health/Urban health” and the “Mental health” EPH24 conference topics. The workshop purpose is to explore the effects of the housing conditions, according to “umbrella” exposure of the quality of the buildings, stressing topics like emissions, qualities, functional features, accessibility, supportive, Indoor Environmental Quality, Indoor Air Quality, and health implications on users’ well-being. In fact, time spent at home and in the indoor environment increased due to the COVID-19 experience, and social-sanitary emergencies are expected to grow due to the urbanization phenomenon. Thus, the role of the physical environment in which we live, study, and work, has become of crucial importance, as the literature has recently highlighted. The workshop program includes inputs which they argue current experiences, emerging practices and scientific outcomes related to the healthy Buildings, coming from four different European countries. From Sustainable Development Goals, in “Healthy air for healthy minds”, to Indoor Environmental Quality implications, in “How to promote health in indoor living and working spaces: quali-quantitative analysis to evaluate the indoor air quality through users’ perception and low-cost sensors”. From experience-based works related to specific functions, in “Leveraging digital platforms to improve Public Health in hospital smart buildings”, to other specific public buildings’ experiences, in “Novi Sad cultural stations as healthy buildings for wellbeing concept”.

Key messages:

- explore the relationship between housing conditions, Indoor Environmental Quality, and the implications on users’ well-being, like “umbrella” exposure of the quality of the buildings.
- establish a multidisciplinary approach for understanding together how to create and manage healthy living indoor environments, at private and public scale.

Abstract citation ID: ckae144.490
Healthy air for healthy minds

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Background: The adverse health effects from exposure to air pollution is increasingly known. A recent report shows that at least 95% of the world’s population breathe air containing dangerous levels of pollutants. According to estimates from the World Health Organization (WHO), ambient air pollution is related to 4.2 million deaths every year. Less is known about the association between indoor air (especially particulate matter 2.5 and volatile organic compounds (VOC) pollution and mental health conditions. Many sources of indoor air pollution exist, such as pressed wood products, pesticides, secondhand smoke, stoves, heaters, overcrowding and fireplaces.

Aims: We aim to synthesize knowledge on the effects of particulate matter 2.5 in indoor air and mental health conditions.

Methods: We systematically reviewed the association of indoor air pollution with mental health conditions using the databases Pubmed and EMBASE.

Results: Exposure to indoor air pollutants is associated with increased anxiety and depression and less cognitive performance. These results are robust; however, the impact of PM2.5 is larger for less-educated and female respondents. Females cook with solid fuels and biomass more often. Physical exposure and gender factors overlap in the exposure to indoor air pollutants.

Discussion: Poor indoor air quality should be part of a comprehensive assessment of factors influencing mental health and cognition. Neuroinflammation might explain the effects of poor air on mental health and cognition. Further research is needed to combine research on the social determinants of mental health and the effects of indoor air. Studies in different settings such as home, work, and hospitals are needed to better understand the specific exposures of indoor air pollution and mental health conditions in different population groups.

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How to promote health in indoor living and working spaces: quali-quantitative analysis to evaluate the indoor air quality through users’ perception and low-cost sensors

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It is well-known that humans spend most of their time in indoor spaces: what it is sometimes underestimated; however, is how much the space in which someone is can affect their abilities, feelings and even their mental and physical health. A team developed a methodology to allow the collection of useful data and giving rise to management strategies for guaranteeing healthy spaces, in terms of Indoor Environmental Quality (IEQ). In particular, the methodology is based on a quali-quantitative analysis of Indoor Air Quality (IAQ) supported by a questionnaire on users’ perception and well-being, based on a scoping review, and low-cost sensors for IAQ monitoring air contaminants (carbon dioxide, temperature, relative humidity, volatile organic compounds, etc.). In particular, for the quantitative analysis, the team adopted a method that considers the location of the sensors in different typology of settings with various solar exposures, ventilation systems, human occupancy, type of activity, etc. with the scope of testing the trends in different seasons. As well as the qualitative data collect several information about the users’ perceived comfort and the symptoms (headache, fatigue, etc.) during their stay. The data analysis highlights how the different users’ perceptions affect the conditions of the environmental units, in particular in crowded rooms (4-6 people). Adequate lifestyles, such as door and window-openings, regular air-changes, etc. can highly affect the performances and the productivity, as well as the quality of the spaces. In that sense the use of low-cost sensors with light signals can be helpful as strategy for informing the user of the state of the air and any actions to be implemented. In conclusion, starting from the methodology, the team gives rise to a decalogue of strategies and good habits that permits -through the support of low-cost sensors - to inform the users on how to guarantee healthy living and working spaces.

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Leveraging digital platforms to improve Public Health in hospital smart buildings

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The integration of digital platforms into hospital infrastructure represents a significant leap forward in public health management. This session explores how smart hospital buildings, equipped with advanced digital technologies, can enhance public health outcomes through more effective disease surveillance, improved environmental controls and enhanced patient care management. Smart hospital

buildings utilize a range of new technologies such as IoT sensors, AI-driven analytics and big data solutions to monitor and optimize various aspects of hospital operations and care. These technologies enable real-time data collection on environmental conditions, patient health metrics and resource utilization, creating an ecosystem that not only supports the immediate health needs of patients but also contributes to broader public health goals. The session will address four key areas where digital platforms can make an impact:
-Disease Surveillance and Management: Digital tools can track health data trends and patterns within hospital settings, enabling early detection of infectious outbreaks and more precise tracking of patient outcomes.
-Environmental Monitoring: IoT sensors can continuously assess conditions such as air quality, temperature and humidity, which are critical for preventing hospital-acquired infections and ensuring a safe environment for patients and staff.
-Resource Optimization: AI algorithms can analyse data to optimize resource allocation, ensuring that medical supplies and human resources are used efficiently, which is crucial in health emergencies.
-Patient-Centred Care: Digital platforms can facilitate personalized patient care through real-time health monitoring and data analysis, ensuring timely medical interventions and better health management.
This session will highlight case studies demonstrating successful implementation of digital technologies in smart hospital buildings and discuss the challenges and lessons learned from these initiatives.

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Novi Sad cultural stations as healthy buildings for wellbeing concept

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Creating spaces for all citizens through the cultural stations project within the Novi Sad - European Capital of Culture 2022 has set an example of applying the concept of well-being which involves integrating various elements that support physical, mental, and social health. Cultural stations project in the city of Novi Sad is a concept supporting cultural programming, healthy food options, mental health support, accessibility and inclusivity, as well as community engagement. Social interaction in urban areas is vital for mental and emotional well-being, fostering a sense of belonging and community, diverse cultural programming that appeals to different groups, cultural activities such as art exhibitions, performances, workshops, and community events provide opportunities for creativity, learning, and social engagement, enhancing overall well-being. Access to cultural stations, spending time there has been linked to reduced stress, improved mood, and increased feelings of well-being within 7 neighborhoods of Novi Sad. This includes providing barrier-free access, accommodations for individuals with disabilities, and programming that is inclusive and welcoming to everyone. Participation of the local community in the design, programming, and management of cultural stations is also important. By integrating these principles into the design, programming, and management of cultural stations, Novi Sad creates vibrant, inclusive, and healthy spaces that contribute to the overall well-being of its residents and visitors. Cultural stations are located in different parts of the city in order to provide accessibility to all citizens. Their arrangement is in accordance with the recommendations of green construction and restoration, and the interior and surroundings foster respect for nature and nature-based solutions. Also, they are developing different content in line with culture, but also science, health and smart solutions as a tool for well-being.

8.G. Scientific session: The German National Cohort (NAKO): Current state, follow up data collection and selected results

Abstract citation ID: ckae144.494

Organised by: NAKO e.V.
Chair persons: Barbara Bohn (Germany), Jennifer Hilger-Kolb (Germany)
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This workshop aims to give an overview on current state and selected results of the German National Cohort (NAKO). NAKO is the largest, multidisciplinary population-based cohort study in Germany. The overall aims of NAKO are: 1) to elucidate pathways to major chronic diseases such as diabetes, cancer, cardiovascular, pulmonary, neuro-psychiatric, and infectious diseases, focusing on determinants and exposures (e.g., socioeconomic, psychosocial, behavioural, occupational, and environmental factors); 2) to assess regional differences; and to improve prevention and early detection of disease. Between 2014 and 2019 more than 205,000 men and women aged 20-74 years at baseline were recruited in 18 study centres across Germany. During their examination participants underwent an extensive programme including a face-to-face interview, self-administered, computer-based questionnaires, in-depth biomedical examinations, and the collection of various bio-samples. In addition, at 5 study centres a subgroup of almost 31,000, received whole-body magnet resonance imaging (MRI). In 4-5 year intervals, all study participants are re-invited for examination at the study centres. The first re-examination started in October 2018 and will be finished in July 2024. In parallel the pilot phase for the second re-examination will start in May 2024. The programme for both re-examinations is similar to the baseline programme. Thereby, longitudinal information on changes in risk factor profiles and in vascular, cardiac, metabolic, neurocognitive, pulmonary and sensory function is collected. During the COVID-19 pandemic two supplemental questionnaires focusing on pandemic-related aspects were provided to all NAKO participants at two different time points. The first COVID-19 questionnaire collected data on more than 160,000 participants during the first COVID-19-related lockdown in Spring 2020. The questionnaire included questions on general state of health, Sars-CoV-2 symptoms, changes in psychosocial, socioeconomic, and behavioural factors (e.g., physical activity). The workshop session consists of four presentations. The first presentation will provide insights into the extensive examination programme of NAKO, will give a short overview on the current state and plans for follow-up of data collection. In addition, it will briefly inform about possibilities to get access to NAKO data. Furthermore, the workshop will include three presentations on selected results of NAKO to demonstrate its broad research scope. The presentations will focus on the following topics: 1) cardiovascular disease and sex differences according to socioeconomic position, 2) cognitive functioning according to income, employment and living alone, 3) physical activity and changes during the COVID-19 pandemic.

Key messages:

- Due to the large sample size, and the broad research scope, NAKO provides an excellent resource to scientists form different research disciplines and enforces interdisciplinary collaborations.
- The workshop will be informative to researchers who are planning to work with NAKO data as data access within the European Union/the European Economic Area is open since spring 2024.

Abstract citation ID: ckae144.495

The German National Cohort (NAKO): Current state and further follow-up data collection

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The German National Cohort (NAKO) is a multidisciplinary, population-based cohort study that aims to investigate the development and aetiology of diseases, identify risk factors and enhance early detection and prevention of diseases. Between 2014 and 2019, a total of 205,415 subjects aged 20 -74 years were recruited and examined at 18 study centres across Germany. The baseline assessment included a face-to-face interview, self-administered questionnaires, a wide range of biomedical examinations and the collection of various bio samples. Furthermore, whole-body magnetic resonance imaging (MRI) was performed on 30,861 participants at 5 of the18 study centres. The first re-examination of study participants started in October 2018, and will be completed end of July 2024 aiming for at least 135, 000 participants. Until April 2024 134,428 participants completed their second examination, including 18,707 participants with additional MRI examination. The second re-examination will start in May 2024 and will last until April 2028 aiming to examine at least 85,000 participants for a third time. Besides the examinations at the study centres, participants receive written health questionnaires (GEFUs) 2-3 years after their last examination to get additional information on incident diseases and changes in exposures. The first GEFU questionnaire (GEFU-1) was conducted between October 2017 and May 2023 and was filled in by 171,181 participants. Since the start of GEFU-2 in March 2023 65,624 participants have answered the GEFU-2 questionnaire. Due to the longitudinal design, the large sample size and the broad examination programme, NAKO provides information on determinants of population health and disease. Thus, it is a valuable resource for researchers from different disciplines.

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Sex differences in cardiovascular disease in relation to socioeconomic position in the NAKO study

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Background: Low socioeconomic position (SEP) is associated with cardiovascular disease (CVD) risk; yet, the underlying pathways are not fully clear and may affect sexes differently. We investigated sex differences in the relationship of SEP with prevalent CVD, cardiovascular risk factors (CRF) and estimated cardiovascular risk in a contemporaneous German population.

Methods: Data derived from the baseline examination of 204,780 participants in population-based German National Cohort (NAKO). Logistic, multinomial, and linear regression models were used to estimate sex-specific odds ratios (OR) and beta-coefficients with 95% confidence intervals (CI) of CVD, CRF and very high-risk score (SCORE2 $\geq$7.5% (age 40-49 years) or $\geq$ 10% (age 50-69 years)) associated with educational attainment and relative income. Women-to-men ratios of ORs (RORs) with 95%-CI were estimated.

Results: In women compared to men, low vs. high SEP was more strongly associated with obesity, overweight, self-reported myocardial infarction and hypertension, elevated blood pressure values, antihypertensive medication, and alcohol consumption, but less strongly related to smoking. In women with the lowest vs. highest educational level, the OR for a very high 10-year CVD risk was 3.61 (95%-CI 2.88; 4.53), compared to 1.72 (95%-CI 1.51; 1.96) in men. The women-to-men-ROR was 2.33 (95%-CI 1.78; 3.05), attenuated after age-adjustments. For the comparison of low vs. high relative income, the odds of having a very high 10-year CVD risk was 2.55 (95%-CI 2.04; 3.18) in women, and 2.25 (95%-CI 2.08; 2.42) in men (women-to-men ROR, 1.31 (95%-CI 1.05; 1.63).

Conclusions: In both sexes, there was an inverse graded relationship between SEP and the likelihood of prevalent CVD and CRF, with stronger associations in women than in men. Although women had a lower estimated 10-year CVD risk compared to men, the likelihood of having a very high CVD risk conferred by low SEP vs. a high one was higher in women than in men.

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Low income, being without employment, and living alone: How they are associated with cognitive functioning - Results from the German National Cohort (NAKO)

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Background: While people with low socioeconomic status tend to have worse cognitive functioning, little is known about the impact of specific socioeconomic conditions. Aim of the present analysis was to investigate to what extent cognitive functioning differs by three socioeconomic conditions: low income, being without employment, and living alone.

Methods: A total of N = 158,144 participants (age 19-75 years) of the population-based German National Cohort (NAKO) provided data on socioeconomic conditions and completed cognitive testing. Multivariable regression model including the three socioeconomic conditions, age, sex, education, occupational status, having diabetes, hypertension, myocardial infarction, stroke, and depressive symptoms was used for analysis.

Results: Results from fully adjusted analysis indicated that cognitive functioning (z-score) was lower among those with low income (b=-0.53, CI95%=-0.57; -0.49) compared to not having low income, living alone (b=-0.10, CI95%=-0.14; -0.07) compared to not living alone, and being without employment (b=-0.22, CI95%=-0.27; -0.17) compared to being employed. The difference in cognitive functioning between those exposed compared to not exposed to the condition was changing slightly with older age among those with low income (interaction with age b=-2.39, CI95%=-3.24; -1.55) and, to a smaller extent, among those living alone (interaction with age b=-0.76, CI95%=-1.34; -0.19).

Conclusions: Low income, being without employment, and living alone were independently associated with poorer cognitive functioning after adjusting for confounders. As those with low income had the poorest cognitive functioning in old age, it is important to explore pathways of how cognitive health in this population group can be improved.

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Changes in physical activity and sedentary behavior during COVID-19 pandemic restrictions in Germany

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Background: During the COVID-19 pandemic's first wave, mobility restrictions and protective measures have impacted both public and private life. In Germany, the population was advised to stay home except for work, outdoor sport activities, and essential shopping. This study aims to evaluate how these measures affected physical activity and sedentary behavior, focusing on identifying the groups most affected.

Methods: In April and May 2020, we distributed a COVID-19-specific questionnaire to participants of the German National Cohort (NAKO). The questionnaire was specifically designed to assess changes in physical activity and sedentary behavior compared to pre-restriction levels, along with data on anxiety and depressive symptoms.

Results: Around 26 % of the 152,421 respondents reported increased sedentary time, and about 38 % reported reduced participation in sport activities compared to pre-restriction levels. Over one-third of those who previously met the WHO's physical activity recommendation could not maintain it during the restrictions. There was also a notable decline in active transportation (M = -0.12; 95% CI: -.126; -.117), whereas participants spent more time on recreational physical activities (M = 0.12; 95% CI: .117; .126). Based on multivariable linear and log-binomial regression models, we found that younger people were more affected by the restrictions than older adults. Factors such as transitioning to remote work, self-rated health, and depressive symptoms strongly correlated with changes in all physical activity domains, including sedentary behavior and adherence to physical activity guidelines.

Conclusions: The shift towards inactivity or low-intensity activities during the nationwide restrictions poses potential long-term health risks, highlighting the urgent need for public health policies to address the negative impact of COVID-19 restrictions on physical activity and sedentary behavior.

8.H. Scientific session: Coordinated actions to improve our response to Long COVID at EU and national levels

Abstract citation ID: ckae144.499

Organised by: DG SANTE European Commission, NIVEL (Netherlands), EUPHA-HSR
Chair persons: Stefan Schreck (Luxembourg), Johan Hansen (EUPHA-HSR)
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The COVID-19 pandemic still has very real and far-reaching consequences for European citizens, healthcare systems and economies. It has been estimated that approximately 10%-20% of people that were infected by SARS-CoV-2, develop Long COVID. Countries within the European Union and elsewhere have been responding to Long COVID in various ways. Some countries initiated a more extensive response to Long COVID, including the creation of multidisciplinary Long COVID clinics. In other counties, Long COVID should be addressed within existing infrastructures within the health care system, which can be hampered by the siloed approach of how services for people with chronic conditions is organised. Moreover, a coordinated and uniform response to Long COVID is complicated by the fact that there is a large variety of terms and definitions of Long COVID and the fact that long COVID symptom are often similar to symptoms of other diseases, thus hampering specific characterisation of patients. While substantial progress has been made in understanding Long COVID we still need more answers about its causes and the most effective treatments. It is also important to understand the impact that Long COVID has on individual lives of those who are being affected - and their families - as well as on societies as a whole. The session aims to take stock of a number of recent insights relating to Long COVID, also with the purpose to identify opportunities for a more coordinated and harmonized approach towards Long COVID at national and international levels. The session will provide room for discussions and engagement with the audience, allowing to help inform future policy agendas. As such, better ways to understand and address Long COVID can also be beneficial for health systems as a whole, given the parallels with how services are provided and policies are set up to address other chronic (non-communicable) diseases.

Key messages:

- Long COVID is still poorly understood, in part relating to the complexity of the condition, also having considerable impacts on individuals and societies.
- A more harmonised response can help improve the manners to address it, this to support those still suffering from this long term impact of the COVID-19 pandemic.

Abstract citation ID: ckae144.500

The Network of Expertise on Long COVID as a means to synthesise intelligence and improve our response to long COVID at EU level

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To promote international collaboration and strengthen EU and national-level responses to Long COVID, the Commission set up the Network of Expertise on Long COVID (NELC) in 2023. It brings together national institutions involved in Long COVID work, nominated by the Public Health Expert Group (PHEG) representatives of each Member State. The network provides a platform for exchanges of national experiences on diagnosis, treatment, and management of long COVID. The Commission and the NELC agreed on eight specific actions to be implemented to manage Long COVID. The development of a Long COVID definition is complex due to the diverse range of symptoms experienced by patients, and so working towards a unified EU case definition is the first action proposal. This will allow the development and implementation of a surveillance system on national and EU level to foster the knowledge on the actual scale and the symptomatology of Long COVID across the EU leading to a better comparability of health data at Union level. The proposal to develop and implement a training programme for healthcare professionals at EU level will allow for the exchange of expertise/training on Long COVID across Member States. The provision of clinical guidelines based on evidence to Member States will help manage Long COVID, and international collaboration will allow for the sharing of valuable information and data with third countries that have experience with Long COVID. The Commission will use the EU Health Policy Platform to create an open stakeholder group. This group will allow stakeholders and patient groups to express their point of view, and to share experiences. Assessing the far-reaching social and economic consequences of Long COVID across the EU will allow for more targeted social and economic policy responses from Member States. It is important that priority is given to research responding to the most urgent needs of health care systems, which is why the Commission aims to identify research needs.

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Mapping Long COVID across the EU: definitions, guidelines and surveillance systems in EU Member States

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A mapping study had been conducted to provide insight into 1) Long COVID definitions, 2) guidelines and intelligence on diagnosis and treatment, and 3) surveillance systems, as used/implemented in EU Member States plus Iceland, Norway, the United States, Canada, New Zealand, and Australia. Findings show that most Long COVID definitions align with WHO or NICE criteria, although there are also notable differences between definitions. The study also found Long COVID guidelines for diagnosis and treatment in 21 out of 34 selected countries. Common elements include advocating a multidisciplinary approach, a central role for primary care, and the focus on rehabilitation. Some guidelines include recommendations for referral to specialised care and follow-up procedures. Guidelines also differ in their target audience and in terms of their focus specific symptoms or organ systems that are affected by Long COVID. When it comes to Long COVID surveillance systems only a limited number of (nine) registries were found. Five of the Long COVID registries are based on self-registration. As limited information is available for most registries, a detailed understanding of their structures and goals in comparison to others is hindered. In conclusion, the study underlines the interconnectedness of Long COVID definitions, the development of guidelines, and surveillance systems. Given the variability in definitions and the voluntary entry of patients into the existing registries, there are no good estimates yet of the total numbers of patients and the severity of their disease in EU Member States. Linking information from cohort studies and clinical trials may be necessary to provide the full picture of the burden of disease of Long COVID. Still, preliminary estimates indicate that a significant proportion of those infected with COVID-19 experience long lasting symptoms, leading to impaired quality of life, also placing a significant burden on national health systems in the future.

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Assessment of the impact of Long COVID on labour market participation and potential economic effects in the EU

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This paper estimates the economic cost of long COVID through its direct impacts on the labour market. The direct implications of long COVID for affected individuals concern their capacity to work, and their productivity at work. Some individuals might continue to work, but at a lower productivity level, some might reduce their hours worked, including as a result of temporary absences, and some might stop working at all. To the best of our knowledge, so far, no study has explicitly addressed the impact of long COVID on the EU labour market. The present paper provides a tentative assessment using available estimates from surveys, clinical follow-up studies and model simulations of the prevalence of long COVID. This tentative approach yields an estimated negative impact on labour supply of 0.2-0.3% in 2021 and 0.3-0.5% in 2022. In person-equivalents, this means long COVID would have reduced labour supply by 364,000-663,000 in 2021 and by 621,000-1,112,000 in 2022, combining the effect of lower productivity, higher sick leaves, lower hours, and increased unemployment or inactivity. The lower bound of this range is close to a recent estimate put forward for the US (Abraham & Rendell, 2023). Available labour market data suggest a mixed picture when it comes to the impact of long COVID. Overall, the possible role of long COVID in the rising trend in sick leave, disability and activity-limiting health factors, warrants careful monitoring going forward, due to its potential impact on labour supply and labour productivity, and on public finances through increased social benefits, pensions, health care and long-term care expenditure.

8.I. Pitch presentations: Challenges and strategies for improving infectious diseases control

Abstract citation ID: ckae144.503

Developing a set of core items for assessing preparedness in Italy: a Delphi approach

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Background: Effective pandemic management relies on preparedness and several tools are available for evaluation. However, due to differences in regional healthcare organization and structures, these may not accurately evaluate Italy's capacities. This study, part of a project funded by the Italian Ministry of Health, report on the development of an assessment tool capable of evaluating the preparedness to confront pandemics at the regional level based on the actions outlined by the Italian influenza pandemic plan.

Methods: A desk research was carried out for preparedness evaluation tools, consulting Public Health Agencies, and Google Scholar and Search. Tools evaluation items were extracted, associated with the Italian plan, and screened for relevance and data availability. Selected items were then subjected to a two-round Delphi procedure involving 18 stakeholders from academia, local health services, and national agencies. The agreement was assessed using a 10-point Likert scale, and defined as a mean score $\geq$8, and consensus as a score standard deviation (SD) $\leq$1.5. Items with mean score $\geq$ 8 and SD $>$ 1.5 after the first round were sent to the second round.

Results: A total of 6 tools were included in the study, from which 303 evaluation items matched the actions of the plan. After the screening phase, 122 indicators were deemed relevant and potentially available and sent to the Delphi procedure. Eighteen (14.8%) items reached both agreement and consensus in the first round, while another fifteen (12.3%) after the second. The 33 items covered all the domains of the national plan, especially Research and Development (21.1%) and Clinical Governance (15.2%).

Conclusions: The development of a set of core items that are agile, relevant, and readily available was facilitated by the involvement of stakeholders from different sectors. Moreover, adherence to the Italian pandemic plan should ensure that these items are deeply integrated into the unique context of the Italian regions.

Key messages:

- The Delphi process identified a narrow number of evaluation items with great consensus.
- Consensus was searched involving stakeholders from central authorities, local units, and academia.

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Community Healthcare-Associated Infections: Enhancing Control with Software and Tailored Protocols

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Issue/Problem: Healthcare-associated infections are major global public health challenges. In Portugal, the prevalence of resistant Enterobacteriaceae is particularly alarming. Studies typically focus on hospitals and long-term care facilities, neglecting community settings where patients, particularly the elderly with multiple comorbidities, often transition between hospital and home.

Description of the problem: Effective control measures are vital across all healthcare environments. In home care, sporadic implementation of Contact Precautions, due to the lack of specific guidelines and challenges in accessing colonization information, has been a major gap. This project aimed to close this gap by integrating a software, previously used only in hospitals, to enhance infection control in domiciliary care. The intervention adapted contact transmission-based precautions for home settings and used data from the previous year's infections and colonization to tailor recommendations for each patient, preventing transmission between homes and enhancing caregiver education.

Results: Preliminary data from a two-month monitoring period involved 40 patients under the care of three domiciliary teams. Eleven had records of infections involving 19 microorganisms, including 7 Enterobacteriaceae, five of which were carbapenemase producers. This led to five customized recommendations for improved precautions. The intervention also heightened nurses' awareness of patients' microbiological histories, evidenced by increased inquiries to the infection control team.

Lessons: Adapting measures to the unique dynamics of home care, distinct from hospital settings, is critical. Involvement of care teams in decision-making ensures practical adherence and enhances measure effectiveness. Regular monitoring is crucial for compliance, making this approach a model for other settings.

Key messages:

- Adapting hospital protocols to community settings and offering close support to caregiving teams increases compliance.
- Implementing software that facilitates communication about infection and colonization enhances infection control effectiveness in community settings.

Abstract citation ID: ckae144.505

Excess mortality in individuals with and without COVID-19 vaccination in the Netherlands in 2021

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Background: The COVID-19 pandemic greatly affected public health, evident in higher mortality rates in 2020-2022. COVID-19 vaccinations reduced global mortality, though this may vary across subpopulations. We aimed to study the role of COVID-19 vaccination in excess mortality by examining individuals with and without COVID-19 vaccine while accounting for characteristics such as income and frailty.

Methods: In this observational study, electronic health record data from general practitioners participating in the Nivel Primary Care Database were linked to demographic data and COVID-19 vaccination data. Patients were categorized in age groups, based on vaccination invitation dates, with the index date set as vaccination date for vaccinated individuals and the expected vaccination date for nonvaccinated ones. Expected mortality rates were calculated using 2015-2018 data, accounting for season, sex, income, migration background, palliative care, and frailty. We compared expected mortality to observed mortality in 2021 to determine excess mortality.

Results: Preliminary results show that nonvaccinated individuals (n = 160.253) were younger, and less frail, but more often received palliative care than vaccinated individuals (n = 819.363). In nonvaccinated individuals, excess mortality in the three months after expected vaccination ranged from 22-61% for 36-60 year olds to 209-233% for the 81+ year olds. In vaccinated individuals, excess mortality ranged from -64- -61% in 36-60 year olds to 2-4% in 81+ year olds. When not correcting for palliative care, excess mortality estimations increased significantly in nonvaccinated individuals (e.g. for 81+ year olds: 504%-514%).

Conclusions: Excess mortality was hardly present in vaccinated subgroups, while it was high in all nonvaccinated subgroups. Our study shed light on characteristics of nonvaccinated individuals, who require special attention during future vaccination programs to prevent excess mortality.

Key messages:

- Excess mortality in the three months after (expected) COVID-19 vaccination was high among nonvaccinated individuals and hardly observed amongst vaccinated individuals.
- Routine care data could help identify terminally ill individuals, who are overrepresented amongst nonvaccinated individuals, and mitigate the so called healthy vaccinee bias in vaccination research.

Abstract citation ID: ckae144.506

Systematic review of the literature about immunogenity and antibodies persistance of Tdap vaccination

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Introduction: In industrialized countries, routine use of pertussis vaccines has shifted the burden of pertussis disease from children to infants, adolescents and adults, leading to the necessity of booster doses.

Materials and methods: We prepared the review following the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) with the aim of a) to describe the immunogenity of the main available vaccines for adolescents and adults b) to describe antibodies persistance after immunization with the main vaccines available in childhood and adults and, also, possible co-administration and c) to identify the gold standard for adolescent and adult immunizations.

Results: Of 6906 records identified, after removing duplicate records, 12 RCT were included (people aged 11-73): of these 7 studies had only 1 control group, 4 studies had 2 control group and 1 had 5 control group; moreover, of the 12 studies included only 2 regarding co-administration and all were about immunogenity. 9 out 12 studies had a Jadad score above 3 points and 10 out 12 meet the criteria of Cocrane Back Review Group Criteria List for Methodological Quality Assessment.

Discussion and conclusions: We found a limited number of good-quality RCTs investigating our object. The five component vaccines, although containing a lower dosage of antigen, are found to be more effective than one components vaccines for prevention. Evidences support the use of 5- components vaccines for booster sessions in adolescence and adulthood.

Key messages:

- Although 3-component and 5-component vaccines contain a lower dose of antigen, they are more effective than 1-component vaccines in the prevention of diphtheria-tetanus and Bordetella pertussis.
- The robustness of the data and the analytical tests support the use of vaccines with reduced antigen concentration for decennial booster sessions in adolescence and adulthood.

Abstract citation ID: ckae144.507

Impact of artificial intelligence on healthcare-associated infection control: a systematic review

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Background: Healthcare-associated infections (HAIs) represent a significant public health concern, correlating with increased morbidity, mortality rates and healthcare expenditures. While artificial intelligence (AI) systems offer transformative potential in enhancing HAIs detection and control practices, the actual performance effectiveness of these systems remains uncertain. This systematic review updates a previously published study from 2020 and evaluates the performance of AI-based tools for surveillance, detection, and control of HAIs.

Methods: PRISMA 2020 guidelines were applied. The study protocol has been registered in PROSPERO (ID: CRD42024513145). PubMed, Embase, Scopus and Web of Science were searched for experimental and observational studies assessing the performance of AI-based tools to detect and control HAIs, published in English.

Results: From 8,701 articles initially identified, 4,212 records were removed due to duplication. Out of 4,489 papers screened, 147 were included. Studies reported performance measures including sensitivity, specificity, positive and negative predictive values, area under the receiver operating characteristic curve, accuracy, precision, F1 score. Significant heterogeneity was found in the types of technology, infections targeted, health care settings and data sources between studies.

Conclusions: The increase in published evidence since the previous review reflects the growing interest and use of new technologies such as Large Language Models, showing promising performance in surveillance, early diagnosis and prediction of HAIs. However, the observed heterogeneity in study designs, targeted infections, healthcare settings, and data sources underscores the need for standardised methodologies and robust validation processes to ensure the reliability and comparability of results across different studies.

Key messages:

- The use of AI-based tools has the potential to enhance surveillance, detection, and control of healthcare-associated infections, offering a transformative impact on healthcare systems.
- Standardised methodologies and validation processes are needed to ensure comparable results across studies and to maximise the real-world impact of AI tools in HAI surveillance and control efforts.

Abstract citation ID: ckae144.508
Evaluating XGBoost's predictive accuracy on surgical site Infections in cardiac surgery

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Background: Surgical site infections (SSIs) pose a significant threat in cardiac surgery (CS), profoundly impacting patient prognosis. SSI incidence varies widely, reported between 3.5% and 26.8%. The study used a decade-long dataset from SSI surveillance in a specialized hospital in Italy, applying machine learning (ML) techniques to predict the SSI incidence among CS patients.

Methods: Data collected from 2013-2023 through the surveillance system of SSI in patients undergoing CS were used to train a predictive ML algorithm (XGBoost). Data included information on demographics, risk factors, surgery variables (incision site, prophylaxis, etc.), and the infection outcome derived from follow-up interviews at 30 days post-surgery, or 90 days for patients with prosthetic materials, according to the ECDC case definition of SSI. We used the R libraries "caret", "smotefamily" and "xgboost" to train the algorithm. A train-test split of 70-30 was applied. Both downsampling of the majority class (no SSI) and oversampling of SSI cases with SMOTE were used in the training set to address class imbalance.

Results: A total of 10,534 subjects (65.9% males, mean age 68.3 years) who underwent CS (64.3% with prosthetic materials) were included, among which 533 SSIs were identified (mean incidence of 5.06%), with 430 cases (80.7%) occurring after discharge (38.7% deep SSI) and 103 (19.3%) before discharge (55.5% deep SSI). The trained XGBoost algorithm achieved an AUC of 0.62, sensitivity of 69%, and specificity of 50% in the prediction of SSI on the test dataset.

Conclusions: These findings suggest that while the XGBoost model provides a fair predictive capability, there is significant room for improvement in sensitivity and specificity. The use of artificial intelligence offers a promising opportunity to identify patients at risk of SSI. However, further research and comprehensive data are needed to refine the predictive model and effectively improve prevention measures.

Key messages:

- Predominantly occurring post-discharge, SSIs in cardiac surgery necessitate enhanced prevention strategies, highlighting the critical phase after hospital discharge where surveillance is paramount.
- Artificial intelligence may enhance post-discharge SSI surveillance, promising to identify patients at increased risk. Further research is needed to refine these AI tools for optimal sensitivity.

Abstract citation ID: ckae144.509
Characterising Long COVID in an Irish cohort: a study of symptom type, severity and determinants

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Long COVID (LC) is a multisystem disorder impacting 65 million people globally. This secondary analysis of data from the Follow-up After Disease Acquisition (FADA) retrospective cohort study of COVID-19 recovery, aimed to characterise the nature and severity of LC in an Irish sample. The Modified COVID-19 Yorkshire Rehabilitation Scale categorised symptoms. Data analysis employed descriptive statistics and logistic regression. Of 4,671 respondents, 2,338 (50.1%) self-reported LC. LC participants were predominantly female (1,543, 66%), White Irish (1,512, 84.9%), and highly-educated (1,174, 65.8%). 907 (51.5%), had ≥one baseline co-morbidity. Most (1,076, 59.1%) had never smoked. Only 6.9% (162) of LC cases were ever hospitalised with acute COVID-19. Recovery was reported by 979 (41.9%). Of those with persistent symptoms 306 (31.6%) were classified as "moderate/severe." Fatigue was predominant, (1,021, 75.1%) accompanied by cognitive dysfunction (932, 68.5%) and breathlessness (870, 64.0%). Functional impairment, assessed by the EQ-5D-5L score, was evident. Factors associated with LC persistence and severity included baseline co-morbidities (aOR persistent LC 1.44 [95% CI 1.12-1.85], $p = 0.005$; aOR moderate/severe LC 2.90 [1.92-4.37] $p < 0.001$)), smoking (aOR persistent LC 1.59 [1.11-2.28] $p = 0.01$, aOR moderate/severe=1.65 [1.0-2.71] $p = 0.05$), and meeting/exceeding WHO's physical activity guidelines (aOR persistent LC 1.49 [1.16-1.92], $p = 0.002$, aOR moderate/severe=1.69 [1.12-2.54], $p = 0.01$). LC's diverse symptomatology and functional impairment serve as a call to action to the health service to equip itself to address this complexity. This study offers insights into LC symptom type, duration, and determinants, emphasising the need for Public Health to traverse domains, to improve all facets of population health. These findings add to the current understanding of LC, providing a foundation for the development of tailored LC services.

Key messages:

- Long COVID causes a constellation of diverse symptoms.
- The Irish Health service needs to be equipped to manage the diverse symptomatologu.

Abstract citation ID: ckae144.510
England RCT of air filtration to prevent respiratory infections (including covid-19) in care homes

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Context: There is evidence that portable high-efficiency-particulate-air (HEPA) filtration units remove microbial particles from the air, but it is unclear whether this is sufficient to reduce infections in care home residents.

Objectives: To investigate the effectiveness of portable HEPA filtration units for winter respiratory infection episode reduction in care home residents. Study design and analysis: Cluster controlled trial with intention-to-treat analysis. Setting: 90 residential care homes for older adults in England. Population: Residents expected to reside in the care home for ≥ 1 month. Intervention care homes: Five HEPA filtration units in communal rooms and one HEPA filtration unit in 10 to 16 bedrooms. Control care homes: Usual care. Outcome measures: The primary outcome is the number of symptomatic winter respiratory infection episodes recorded by care home staff. Secondary outcomes: other infection measures; falls /near falls; laboratory confirmed infections; hospitalisations; and staff sickness. Process evaluation to assess intervention acceptability and implementation.

Results: Care homes were randomised between January 2022 and February 2024, 43 to intervention and 47 to usual care. Respectively, in intervention and control group care homes: 43% and 45% provided nursing care; 87% and 87% dementia care; and median (IQR) number of communal rooms were 4 (3-5) in both groups. 1126 residents were consented, of whom 31 (3%) moved away; 151 (13%) died; and 5 stopped participating. Primary outcome data is 98% complete with 175,318 'resident days' symptom data collected. Comparing intervention and control group residents: median (IQR) age was 88 (81-92) and 88 (82-92) years; 33% and 43% were receiving nursing care; 58% and 57% had dementia; frailty scores were 6 (4-7) and 6 (5-7); 94% and 94% received influenza; and 97% and 95% COVID vaccines.

Conclusions: Final analytic results of this world-first RCT will be available for the conference.

Key messages:
- This world-first RCT using HEPA filters in care homes will report the evidence of effectiveness of respiratory infection episode reduction in care home residents.
- The trial will inform policy makers about the effectiveness, acceptability and implementation of HEPA filters in care homes.

8.K. Scientific session: Promoting Healthier and Sustainable Diets – Evidence from the Interdisciplinary MedDietMenus4Campus

Abstract citation ID: ckae144.511

Organised by: University of Porto (Portugal), Lisbon School of Health Technology (Portugal)
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Food service comprises the production of meals consumed outside the home, including consumers from all age groups and in different sectors. This service sector has evolved through the years, providing an increasing number of meals, which have been drifting away from the Mediterranean Food Pattern. Food service is an important setting for public health interventions, educating consumers and modulating behaviours through the meals provided. Prior research on eating habits has mainly focused on a single stakeholder - typically consumers - and on a narrow set of outcome variables. Although these studies provide important clues about the determinants of adherence to food offer, research has yet to address this issue using an integrative approach of multiple stakeholders (e.g., the consumers, food providers, and decisors) across a set of different variables. Also, intervention initiatives, usually act only on the environment without strategies that efficiently engage all the stakeholders involved. In contrast, to promote behavioral change this research will focus on Social Marketing as it has been acknowledged as an effective strategy to enhance the health and well-being of consumers. Establishing and managing long-term partnerships that include different groups of stakeholders - consumers, government, retailers, and other players - are key elements in the application of mid and upstream social marketing to complex issues. The project's main ambition is to change the food service paradigm, by creating and implementing a new healthy and sustainable food service concept complying with the Mediterranean diet, as well as solutions that comply with consumers' new needs, and also developing and implementing strategies that engage all the stakeholders with this concept. We expect to create the reference in terms of food offer that will be demanded by consumers of the next generations and the standpoint to inspire the other food service sectors/ settings to achieve an effective and sustainable food offer change and positively influence food service consumers' food patterns towards Mediterranean recommendations. In this workshop, the findings of the project will be presented focusing on examining the barriers and facilitators of adherence to the Mediterranean Diet in the menus offered in public high education institutes canteens in Portugal, Turkey, and Croatia. To promote the identification of effective intervention pathways, we take on an interdisciplinary approach, integrating the theoretical and methodological frameworks of Nutrition, Psychology, and Marketing.

Key messages:
- Provide an overview of an interdisciplinary approach to promote healthier and more sustainable food offered in university canteens.
- Present the pathway to develop social marketing strategies to engage different stakeholders in effective food behaviour change.

Abstract citation ID: ckae144.512
MedDietMenus4Campus: Integrating Views from Nutrition, Marketing and Psychology to Improve Diets

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Food service is an important setting for public health interventions, educating consumers and modulating behaviours through the meals provided. Social Marketing is one of the strategies designed to promote behaviour change, which contributions to health and well-being of consumers are widely recognised. This project aims to identify the compliance of food service menus with the Mediterranean Diet (MD) in public high education institutes

(HEI) canteens, pinpointing opportunities to intervene, namely: 1) promoting changes in the food offer addressing proximity to the MD, creating, and offering plant-based meals, with seasonable and local food products and 2) developing tailored social marketing strategies to engage stakeholders to encourage healthier and sustainable food habits. It gathers a team comprised of nutrition experts on public health and food service, food technologists, gastronomy experts, psychologists, and marketers. To achieve the objectives researchers will: 1) develop an index to evaluate compliance of menus with the MD; 2) define priority stakeholders and define a methodology for engagement; 3) evaluate perceptions, barriers and facilitators; 4) develop a meal plan framework; 5) develop a new food concept "student bag" (meal on the go) and test it for industry scale-up; 6) use previous diagnosis to develop social marketing strategies directed to stakeholders and consumers to achieve food behaviour change and 7) measure the impacts of the implemented strategies. This research intends to create and implement a new healthy and sustainable food service concept, expecting to define the standpoint to inspire other food service settings to achieve an effective and sustainable food offer change and positively influence food service consumers' food pattern towards Mediterranean recommendations, while addressing the Sustainable Development Goals (3 - good health and 12 - responsible consumption and production; 17 - partnerships for the goals).

Abstract citation ID: ckae144.513
Development of a tool to assess the compliance of canteen menus with the Mediterranean Diet

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The Mediterranean Diet (MD) is one of the healthiest food patterns associated with important health benefits. Acknowledging this, it's important to understand how the dietary patterns of the consumers align with the MD. Over time, different authors have formulated several indexes for this purpose. However, current indexes lack standardization, and they only evaluate the quality of the diet of individuals to be used by health professionals and political decision-makers. Although there are indexes to assess the food options at the restaurants, none of them assess the menu compliance with the MD. Due to the importance of the food services in the food choices and dietary patterns of the consumers, this research developed an index to assess the alignment of the food availability with the MD key points. To address this gap, after reviewing the existing indexes in the literature, the authors created a tool that assesses the degree of compliance of menus with the MD - MedCIn. This index is divided into 4 dimensions, the first one assesses the availability (part A) and variety (part B) of the food/food groups. The second dimension assesses the nutritional quality of the menus based on the nutritional declaration, the third dimension assesses the food portions and culinary options, and the fourth dimension allows the verification of the previous information on site. Although the use of all dimensions allows for a more comprehensive menu evaluation, dimension one can be used as a first approach MD compliance. The index is meant to be applied in a 4-week cycle, though it can be adapted for each food service. Validation of this tool included construct validity, internal consistency and inter-rater reliability, all of which returned high values (alpha-Cronbach=0.88; Coheńs Kappa=0.92). The researchers consider this a reliable tool to easily assess compliance of menus with MD key points, allowing for the identification of issues to be addressed and improved

Abstract citation ID: ckae144.514
Water footprint and Med-Diet adherence: preliminary results from MedDietMenus4Campus

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Background: The Mediterranean Diet (MedD) is widely recognized as a health-promoting and sustainable dietary pattern. This study evaluated the environmental impacts of higher education institutes (HEI) menus via water footprint and the compliance with MedD in Croatia, Portugal and Turkey.

Methods: Water footprint calculation followed the methodology of Mekonnen and Hoekstra (2012). Adherence to the Med-Diet was evaluated using the Med-Diet Compliance Index (MeDCIn). All available options were considered, except for restrictions such as vegetarian, considering a 5-day/week and 1-meal/day menu. Menus spanning a two-week period were analyzed from two distinct HEI in each country.

Results: Mean water footprints varied across three countries (1213.9-2297.4 L/person). Turkish HEI 1 (2297.4 L/person) and 2 (1934.2 L/person) exhibited the highest water footprints, while Croatian HEI 2 (1213.9 L/person) and Portugal HEI 2 (1308.6 L/person) had the lowest. MedDiet index scores ranged from 0.50 to 5.50. Portugal University 1 (5.5) and 2 (4.5) scored the highest, whereas Croatia University 1 (0.5) scored the lowest.

Conclusions: In the preliminary results, Portugal presented a lower water footprint and higher MedD adherence, possibly due to the higher use of seafood. The higher water footprint in Turkey might be due to more balanced servings of vegetables and fruits and significant portions of red meat. The low MedD compliance scores in Croatia can be attributed to insufficient fresh fruits, whole grains and pulses, and the low water footprint related to the use of ready-made desserts and soup powders not included in the water footprint database.

Abstract citation ID: ckae144.515
Stakeholders engagement model- Social Marketing strategies to improve students' eating behaviour

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Previous studies have adopted the social marketing framework to investigate change behaviours towards healthier eating habits. However, despite the unequivocal link between Mediterranean Diet and healthy eating, the adoption of social marketing strategies to foster the adherence to such food pattern, remains unexplored, particularly in the context of HEIs. One research goal was to develop a stakeholder engagement model, in order to better craft social marketing strategies aligned with stakeholders' needs. Hence, as different stakeholders call for different engagement designs, we consider that crossing the Social Marketing Framework with the Stakeholder Engagement Model, provides a solid basis to understand how to engage key stakeholders in the implementation of a program aimed at changing and influencing healthier eating habits aligned with the Mediterranean Diet within public HEIs canteens. Behavioural change in such contexts, demands a systemic and holistic approach, able to engage a diverse range of stakeholders, beyond those whose behaviour is expected to change. Social Marketing provides a strategic framework to promote behavioural change towards collective welfare. In the specific context of public health interventions towards healthier eating habits, this framework has been particularly useful. Hence, in-depth understanding on which stakeholders need to be involved in the social marketing process and at what stages, may yield insights into why some interventions change behaviour and why others do not. Findings revealed that it is not enough to create a single stakeholder engagement model throughout the social marketing plan in a more global perspective, as if one solution fits all. This study highlights the importance of designing glocal social marketing strategies, embedding glocal models of stakeholder engagement: standardizing the tools and practices that are possible and adapting what is necessary so that it has success in different national realities

Abstract citation ID: ckae144.516
Students' Perceptions of Food Offer in Portuguese Canteens and Adherence to Mediterranean Diets

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Adherence to healthy eating behaviors, as in the Mediterranean Diet, is related to a better quality of life, better educational performance, and reduced risk of physical illness among higher education students. The provision of good quality and sustainable food is imperative in university environments. Nevertheless, the availability of healthy options tends to be limited across campuses (e.g., affordable fast food; the convenience of high-sugary foods in vending machines), including university canteens. Understanding students' views on canteens and the factors that prevent them from embracing healthy eating habits may help to improve the food supply on campuses. In the present study, we aimed to examine students' perceptions of canteen services and its food supply and to verify students' knowledge and promptness to comply with a Mediterranean Diet menu. A large sample of academic students from Portuguese universities answered an online survey with a mixed approach. Specifically, participants were requested to characterize their dietary practices and report their perceptions about food services and offers in campus canteens. Additionally, students were asked about their knowledge, perceptions, and adherence to Mediterranean Diet. Our findings allow us to map perceptions and attitudes regarding food offered in university canteens and to identify the potential to adhere to more sustainable and healthier food patterns according to individual. Moreover, we identified the main psychological and environmental barriers to adhering Mediterranean Diet. Correlational data indicated a relationship between health-related measures and food-related factors. Advancing data about modifiable factors associated with better adherence to healthy dietary habits in the university context informs the development of actions/interventions to prevent unhealthy food choices and overcome limited and unhealthy food offers in canteen campuses.

8.L. Pitch presentations: From evidence to policy

Abstract citation ID: ckae144.517
The impact of the tobacco law on tobacco-related hospitalizations in Portugal - a natural experiment

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Introduction: Tobacco is responsible for approximately 8 million deaths annually worldwide, with 1.2 million resulting from passive exposure to smoke, as reported by the WHO. Comprehensive tobacco control policies have been enacted across Europe, yet their impacts are seldom assessed. This study evaluates the effects of the anti-tobacco legislation enacted in Portugal in 2007 on tobacco-related hospitalizations between 2002 and 2018.

Methods: Data from all in-patient admissions in public hospitals throughout the 2002-2018 period were utilized. A quasi-experimental interrupted time series design was employed, treating 2008 as an exogenous shock. The dependent variables include the municipality-based incidence of hospitalizations by year for tobacco-related diseases, namely, Acute Myocardial Infarction, stroke, lower respiratory tract infections, chronic obstructive pulmonary disease, and asthma. The analysis was adjusted for the percentage of women, the percentage of individuals aged over 65, and purchasing power in the municipality. Time trend graphs for each variable were generated, followed by an adjustment using the Poisson regression model to forecast their trends. A comparison was conducted between observed post-law implementation data and projected values from the regression model to ascertain the percentage difference between the two. Expected

Results: The 2007 tobacco law led to significant reductions in tobacco-related disease incidence, with the most notable effects immediately post-implementation. The impact varies across age groups, with younger individuals (30-49 years) showing a sharper decrease. The effect diminished over time, as indicated by negative coefficients in time:law interactions, such as -0.03.

Conclusions: The anti-tobacco laws implemented in Portugal have effectively decreased hospitalizations related to tobacco use, suggesting potential increases in life expectancy and reduction in health system burden.

Key messages:

- Public health policies are crucial for the long-term improvement of people's health.
- Non-exposure to tobacco can bring health gains on several levels.

Abstract citation ID: ckae144.518
Measures to increase the retention of migrant healthcare professionals in Germany

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Background: The shortage of skilled workers in the healthcare sector is a pressing issue in Germany that has been worsening in recent years. It is often compensated by the deployment of specialists from abroad. However, this is accompanied by various challenges. This article synthesizes challenges from nine years of research and proposes approaches to solutions that have proven successful in practice in Germany as well as in international settings.

Methods: The insights presented here condense the results from a total of six research projects (four on physicians and two on nursing). The research projects are based on exploratory qualitative interviews, quantitative questionnaires, mixed-methods designs, and the generation and testing of measures that can help with the integration of foreign skilled workers.

Results: The main challenges for migrated skilled workers are inadequate language and communication skills, lack of knowledge about the national healthcare system, disease and therapy concepts, unfamiliar forms of inter-hierarchical and inter-professional collaboration, a lack of understanding of administrative and bureaucratic processes and social integration. The following measures have proven successful in Germany and abroad: increasing social integration of physicians (e.g. through partner or peer programs), streamlining systems, establishing professional structures for the integration of foreign skilled workers, and creating a positive work environment.

Conclusions: Compared to findings from international studies, in Germany the hurdles of administrative processes, the peculiarities of the healthcare system (e.g. social medicine), and learning the language are considered to be the highest. It is important to counteract these challenges with appropriate measures in order to prevent a migration of healthcare professionals already in Germany to (mostly English-speaking) foreign countries.

Key messages:
- In Germany the hurdles of administrative processes, the peculiarities of the German healthcare system (e.g. social medicine), and learning the German language are considered to be the highest.
- It should be considered to no longer leave the migration of healthcare staff to individual integration efforts, but to create appropriate government structures that focus on their social integration.

Abstract citation ID: ckae144.519
Learning through playing in public health: a card game's evaluation

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Background: In medical education and particularly in public health, the shift toward active learning addresses the limitations of traditional lecture-based methods. Game-based learning, such as serious games, showed potential to overcome these limitations. "Accidémie" is a card game designed to improve medical students' knowledge of home accidents and their competencies in public health through an interactive format. This study aims to evaluate the effectiveness of "Accidémie".

Methods: We conducted a quantitative pre-post assessment study among sixth-year medical students of the University of Versailles. Data were collected through a 20-item true/false repeated questionnaire before and after. In addition, the post-intervention questionnaire included questions on students' satisfaction and an open-ended question. Responses to the questionnaires were converted into scores. The main outcome measured was the change in the scores. The scores before and after the intervention are presented with their mean and standard deviation. They were compared using a paired t-test. Student satisfaction is presented in terms of frequency and includes verbatim responses from the students.

Results: Thirty-eight students participated, with pre-test scores averaging 13.13 ($SD = 1.98$) and post-test scores averaging 14.89 ($SD = 1.94$). A paired t-test provided statistical evidence of the difference between the pre- and post-test scores ($p < 0.001$). Students provided positive feedback: 81.6% of the students were very satisfied with the game; 42.1% considered it extremely useful. They also underlined that 'Accidémie' is an enjoyable learning tool, praising its innovative approach.

Conclusions: "Accidémie" improved students' knowledge of home accidents and their engagement. It supports the use of serious games in medical education complementary to traditional methods. Applying the concept of "Accidémie" across various subjects and among diverse groups of health students offers promising prospects.

Key messages:
- 'Accidémie' significantly improves students' knowledge of home accidents, a public health topic.
- "Accidémie" allows medical students to learn while playing, boosting satisfaction and engagement.

Abstract citation ID: ckae144.520
Smoke-Free Policies and Cigarette Consumption Impact on Myocardial Infarction Mortality in Europe

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Background: Limited evidence exists on the association between smoke-free policies and per-capita cigarette consumption and mortality due to acute myocardial infarction (AMI) in Europe. Therefore, our study aimed to assess this association and evaluate influencing factors.

Methods: We conducted an interrupted time series analysis involving 27 European Union member states and the UK, examining per-capita cigarette consumption and AMI mortality. A multivariate meta-regression assessed potential influencing factors.

Results: Approximately half of introduced smoke-free policies were associated with level or slope changes, or both, in per-capita cigarette consumption and AMI mortality (17 of 35). Notably, the smoking ban in Poland in 2010 resulted in the most substantial level reduction in cigarette consumption (rate ratio (RR): 0.47; 95% CI: 0.41, 0.53), while the intervention in Bulgaria in 2012 led to the largest level reduction in AMI mortality (RR: 0.38; 95% CI: 0.34, 0.42). More recent policies or those from countries with lower human development indices were linked to greater decreases in cigarette consumption. Furthermore, smoking bans encompassing bars exhibited a stronger inverse association with both cigarette consumption and AMI mortality.

Conclusions: Our findings indicate the effectiveness of smoke-free policies in reducing per-capita cigarette consumption and AMI mortality. Continued monitoring and data collection on tobacco, prevalence, and consumption are crucial for concerted efforts to address its health impacts.

Key messages:

- Smoke-free policies lower cigarette consumption, reducing heart attack deaths in Europe.
- Monitoring tobacco data crucial for health efforts: Study shows smoke-free policies save lives.

Abstract citation ID: ckae144.521
Sociodemographic, work- and health-factors predict rejection of vocational rehabilitation in Finland

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Background: Vocational rehabilitation (VR) decreases the number of premature retirements. Pension insurance companies operate private sector employees' VR in Finland. In 2022, some 15,500 individuals received rehabilitation in this earnings-related pension system. However, the rejection rate was 46%. Similar systems exist throughout OECD. VR facilitates finding suitable work despite an illness. A person is eligible if a threat of disability exists within the next few years and non-medical requirements are met. Currently VR is underused. Thus, it is important to understand which sociodemographic, work- and health-related factors predict a VR rejection.
Methods: We had full application data from a Finnish insurer for 2015-20. Our data cover roughly 40% of the 2.7M person Finnish working population. We excluded applicants with preceding VR and only included under 58-year-old applicants rejected due to 'no risk for disability'. Our data comprised age, region of residence, salary, doctor's assessment grades, diagnosis, industry, and data on preceding sickness, unemployment and rehabilitation benefits. For analysis, we used logistic regression.
Results: After adjustment, younger age and mental disorders showed largest effects on rejection. Features associated with a less severe medical condition as well as decreased employment were significantly connected to rejection. Industry and place of residence showed no effect. Of note, stable employment and higher pay predict entry possibly due to more possible rehabilitation options and better health in general. Interestingly, people with multiple diagnoses are more likely to be rejected.
Conclusions: The work-ability of aging European populations could benefit from vocational rehabilitation that better suits mental disorders and younger people.
Key messages:

- Vocational rehabilitation (VR) is an underused method to maintain work ability.
- Our study identified groups that could benefit from tailored solutions in VR that decrease barriers to entry.

Abstract citation ID: ckae144.522
Innovative approaches to measuring and promoting employee vitality and sustainable employability

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Background: Employers find it difficult to develop interventions for vitality and sustainable employability (SE), particularly for employees in low-skilled jobs. Measures based on the employee perspective on SE that would give direction to interventions fall short, and effective programs to improve vitality and SE in this group are lacking. This study aims (1) to get insight into the effect and implementation of an innovative organizational, dialogue-based approach 'Healthy HR' (HHR)* to promote job control and SE, and (2) to refine and further validate the Maastricht Instrument for SE (MAISE)-Easy (an HHR tool for needs assessment).
Methods: (1) An effect evaluation with a pretest-posttest design with a 1 year follow up (N = 71), and a mixed-methods process evaluation were conducted. Data were collected using questionnaires, interviews with employees and employers (N = 26), focus groups (N = 4) and logbooks. (2) A questionnaire containing the MAISE-Easy-items, proxy variables (health and vitality) and demographics was answered by 1223 employees from 7 organizations. Construct validity, reliability and criterion validity were tested through PCA, CFA, Cronbach's alpha and correlations.
Results: (1) A higher dose of HHR resulted in better job control and SE (n.s.). HHR had a positive impact on the awareness level of vitality and healthy workplaces of all stakeholders. (2) Reliability, construct and criterion validity of the MAISE-Easy were good, and MAISE-Easy 2.0 was constructed. This tool consists of 8 scales and 20 items divided over 4 areas: (1) Level of SE; (2) Factors affecting my SE; (3) Overall responsibility for SE; and (4) Responsibility for factors affecting my SE.
Conclusions: MAISE-Easy 2.0 is a valuable, valid and reliable tool in HHR which serves as a needs assessment for SE interventions. The innovative participatory approach HHR can improve job control and SE of employees in low-skilled jobs by giving them an active voice.
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Key messages:

- Healthy HR (HHR) is an effective, organisational dialogue-based approach (online toolkit) to promote job control, vitality and sustainable employability (SE) of employees in low-skilled jobs.
- MAISE-Easy-2.0 (Maastricht Instrument for SE) is a new and thoroughly validated HHR tool for needs assessment, which measures SE and the responsibility for SE from the employee perspective.

8.M. Skills building seminar: Mental health and substance use in Europe

Abstract citation ID: ckae144.523

Organised by: EUPHA-PMH, European Union Drug Agency
Chair persons: Marija Jakubauskiene (EUPHA-PMH), Linda Montanari (Portugal)
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The impact of social factors on individual and population mental health are well established (Kirkbride, et al., 2024). The same social factors may trigger the substance use behavior developing into substance use disorders. Mental health disorders can contribute to the substance use and substance use disorders with worsening effects over time (EMCDDA, 2016). This association between substance use, substance use disorders and mental health disorders is a key objective for the scientific consideration and policy development. Respective phenomena are universal and a broader perspective would be useful for a better understanding of how the issue of comorbidities of substance use and mental disorders are addressed on a European level. Identification of the substance use problem, especially among populations in vulnerable situations, like migrants, becomes utterly important. Heterogenous systematic reviews show that there is a need for socially and culturally refugee sensitive instruments to measure the substance use in migrants. Oftentimes substance use is followed by the substance use disorders and drug use related infections. Injecting drug use is also a risk factor for having drug use related infections, such as hepatitis B and C, HIV, tuberculosis. Assessment of risk behaviour patterns among people who inject drugs may contribute to a higher participation in treatment and health programmes, reduce the burden of substance use and tackle comorbidities of substance use and mental health disorders. The skill building seminar aims to increase the knowledge and capacities on substance use and comorbidities, applied methodological approaches and tools in different European contexts. This workshop will support researchers, policy makers, public health planners by providing evidence base to address substance use and mental health issues. The added value of this workshop is based on the structure, content and mode of presentations - presentations will be followed by questions from participants and short discussions. The workshop will start with the general introduction to the topic of comorbidities of substance use and mental health disorders (EUPHA-PMH and EUDA). Then the European level perspective on comorbidities of substance use and mental health disorders will be presented including recent policy developments (1 presentation by Linda Montanari, EUDA). It will be supported with research results from the study conducted in Germany on substance use assessment tool development in migrant population (2 presentation by Kim-Julian Behr, Germany) and behavioural risk factor assessment study among people who inject drugs in Lithuania (3 presentation by Marija Jakubauskiene, Lithuania).

Key messages:

- Participatory approach is useful to address the substance use problem in assessment tool development and further monitoring.
- Better understanding of comorbidity of substance use and mental disorders leads to a more effective prevention.

Abstract citation ID: ckae144.524
Comorbidity of substance use and mental disorders in Europe

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‘Comorbidity of substance use and mental disorders’ refers to the co-occurrence of a substance use disorder (SUD) and another mental disorder (MHD) in the same individual: mental disorders can be a risk factor for SUD and SUD may affect the occurrence of MHD. The relevance of the mental health disorders among people who use substances is related not only to its high prevalence, but also to its difficult assessment, diagnosis, and management. The EUDA is the European Drug Agency (EUDA), a decentralised agency of the European Commission with the purpose to support the European member States to monitor, respond and be prepared to the challenges posed by the drug phenomenon, including the link between SUD and MHD. In 2015 the agency has published an overview on comorbidity of SUD and MHD where it discusses several issues regarding dual disorders, including: theoretical concepts and mechanisms of actions, tools for screening and clinical diagnosis, epidemiology and interventions available to address comorbidity in the European countries (EMCDDA, 2015). The European strategic policy documents in the drug area stress the importance of considering mental health in monitoring, evidence-based responses and training for professionals in the drug field (EC, 2021). During the COVID19 pandemic, due to the overall increased concern on mental health in the population, the EUDA conducted an ad-hoc study to its the impact on substance use and mental health, especially in people who use illicit drugs. Recent work has been done to improve the available epidemiological data on comorbidity in the current European drug monitoring tools and to describe models of care for the treatment of dual disorders in Europe. Further steps are being taken with the development of the recent new agency’s mandate.

References: EMCDDA (2015), Comorbidity of substance use and mental disorders in Europe; Council of the European Union (2020), EU Drugs Strategy 2021-2025

Abstract citation ID: ckae144.525
Participative development of a culture-sensitive instrument to measure substance use in Syrian refugees

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Background: Rarely assessment instruments have been developed with end users such as refugees or those suffering from mental health conditions. Refugees’ experiences pre-, during, and post-flight are associated with various mental health problems including substance use disorders. Systematic reviews on the prevalence of substance use disorders in refugees worldwide show heterogeneous results. To address possible misclassification due to the lack of refugee-sensitive instruments we aimed to develop a refugee-sensitive instrument.

Methods: We applied a three-step triangulation study design. First, we conducted a three-stage delphi-process in 2019 and 2020. We recruited Syrian medical doctors for the study. Second, we conducted six focus group discussions with Syrian refugees and medical doctors. Third, we conducted expert checks with medical doctors and professionals providing psycho-social services for refugees. For all focus group discussions, audio recordings were translated and transcribed. Computer-assisted thematic analysis was performed applying a deductive approach with semantic coding.

Results: The refugee-sensitive instrument consists of seven domains of substance use: lifetime use of relevant types of substances, frequency, intensity, self-perception of, and situations posing a risk for substance use, ability to perform, craving, tolerance, and intentions to reduce or quit substance use.

Discussion: The instrument has been developed qualitatively, however, a limitation is that it could not be validated in a quantitative large sample of refugees. In spite of this limitation, this is - to the best of our knowledge - the first instrument that has been developed in a participatory approach together with end-users.

Outlook: The study suggests that developing assessment instruments in a participatory approach is feasible. Participatory development of assessment instruments is in line with the new paradigm of co-creation of mental health conditions management.

Abstract citation ID: ckae144.526
Substance use and risk behaviour patterns among people who inject drugs

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Background: Substance use and injecting drug use in particular are related to health damages, reduced quality of life and life expectancy. Injecting drug use is a risk factor for acquiring infectious diseases among people who inject drugs (PWID). The aim of the study was to assess the risk behavior related to the use of intravenous psychoactive substances among PWID in Lithuania.

Methods: In 2023 a cross sectional study using respondent driven sampling (RDS) of active intravenous drug users (n = 370) was conducted in 5 different sites across Lithuania. RDS is a sampling methodology based on peer-referral in underserved populations that cannot be sampled randomly. Descriptive statistical and regression analyses were conducted using SPSS 23.0.

Results: 78% of the sample were males, 22% - females. Age mean is 40.6 years, SD-7.7. The first injecting drug was used at the age of 18 (mode). 69% of PWID received drug dependance treatment at least once in life. 70% of the PWID in harm reduction services are also in the substitution therapy programmes. Fentanyl is the main substance for every second respondent which is injected 3 times a day and commonly used with alcohol (64%). 79% of PWID during the last injection used sterile needles and syringes. 45% of respondents reported overdosing during the last 12 months and half of all PWID had naloxone for death prevention. Nearly 70% were tested for TB and syphilis during the last 12 months.

Conclusions: PWID are mainly males who began injecting drugs at 18 years. Unsafe injecting behaviour (frequency and mode), using alcohol were related to lower participation in health care services for PWID.

Main messages:

- Lower participation in health care services is related to behavioural risk factors.
- Ongoing research is needed to assess the factors determining engagement into healthcare of PWID.

8.N. Scientific session: Transferability and adaptation of vaccination interventions: Learning from underserved communities

Abstract citation ID: ckae144.527

Organised by: RIVER-EU
Chair persons: Tamara Schloemer (Netherlands), Janine De Zeeuw (Netherlands)
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Removing barriers in the health system that make it difficult for cultural, religious or ethnic minorities to access vaccinations is an urgent concern in order to prevent infectious diseases in the future. Childhood vaccine uptake for MMR and HPV in most underserved communities is lower than in the general population. The project RIVER-EU (Reducing Inequalities in Vaccine uptake in the European region - Engaging Underserved communities) engages the migrant community in Greece, females with a Turkish or Moroccan migration background in the Netherlands, the Ukrainian minority in Poland and marginalized Roma communities in Slovakia to remove health system barriers to vaccination. Barriers include, e.g., lack of culturally and linguistically appropriate information, financial barriers, insufficient capacities, coordination and delivery of health care. Based on a Participatory Action Research (PAR) approach we selected and adapted potentially transferable evidence-based interventions in partnership with the communities. First, we pre-selected 6 useful interventions from a realist review on 36 effective vaccine uptake interventions. Second, we assessed them in depth for their transferability. Building a bridge between evidence on interventions and community needs is not an easy task: We involved various stakeholders in a longitudinal process under consideration of contextual conditions in the primary intervention context and the context of the respective underserved community. We co-created knowledge through 25 workshops and 39 interviews or focus groups for decision-making and determining need for adaptation of selected interventions. The aim of this workshop is to present the results of this co-creative process in each country. Special attention is payed to facilitators and barriers for transferability of evidence-based interventions from the perspective of underserved communities, and contextual commonalities and differences that lead to a specific intervention tailoring. This workshop will contribute to an improved understanding of how to consider contextual needs underserved communities have to remove health system barriers to vaccination on the one hand and suitable evidence on interventions to improve their situation on the other hand. The workshop will include five presentations of eight minutes and a questions and answers session to involve the audience. First, an introductory presentation on transferability of interventions for HPV and MMR vaccine uptake to underserved communities in specific contexts will be given. Then each country will present the intervention(s) to address health system barriers adapted to their context. Thereby, we will underline common key elements that have potential for transferability in all countries. After all presentations, we will discuss the need for context-based decision-making on evidence-based interventions and intervention tailoring to improve vaccine uptake for cultural, religious or ethnic minorities.

Key messages:

- Improving vaccine uptake in underserved communities requires local solutions with tailored interventions. Trusted partnerships with various stakeholders are key to reducing health system barriers.
- Participatory approaches to evidence-informed decision-making build bridges between evidence on interventions and needs of underserved communities to understand the transferability of interventions.

Abstract citation ID: ckae144.528
Transferability of vaccination interventions from a community perspective: One size does not fit all

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Background: Removing health system barriers to childhood vaccination is an urgent matter in the migrant community in Greece, the Turkish and Moroccan communities in the Netherlands, the Ukrainian minority in Poland, and the marginalized Roma community in Slovakia. The objective of this study was to select and adapt potentially transferable evidence-based interventions for HPV and MMR vaccine uptake in partnership with the underserved communities.

Methods: Using a participatory approach, we assessed transferability of six pre-selected interventions with the Population, Intervention, Environment and Transfer (PIET-T) models: All countries investigated two interventions with trained community members to support vaccination as health promoters. Greece and the Netherlands included a school-based vaccination program. The Netherlands added two interventions addressing providers' HPV vaccine communication, and Slovakia a multilevel intervention.

Results: We identified barriers and facilitators for successful intervention transfer in each of the target contexts. The transferability analysis showed that an intervention with health promoters is potentially transferable with adaptations in all countries. Principles of trust in the educator, tailored and trustworthy information, help in navigating the health system for vaccination and easy access at no cost are transferable key elements in all contexts. Adaptations refer to the intervention elements that need to be tailored to specific contextual needs. School-based vaccination was nowhere transferable. Health provider training needs to be culturally sensitive and adapted to the Dutch system. The multilevel intervention in Slovakia is not fully transferable.

Conclusions: Participatory transferability analysis was essential for decision-making and intervention adaptation. All countries independently selected a health promoter intervention as having potential to remove the identified health system barriers in the respective context.

Abstract citation ID: ckae144.529
Interventions' transferability assessment to strengthen Vaccination Uptake Among Migrants in Greece

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Background: Migrant children in Greece face significantly lower vaccination coverage rates for MMR and HPV compared to their counterparts. To address this disparity, our research focuses on selecting and adapting evidence-based interventions tailored to the specific needs of different migrant communities staying in Greece, guided by the PIET-T framework.

Methods: Using a stakeholder-engaged approach, we involved 26 key stakeholders to select evidence-based interventions relevant to the Greek context. These interventions underwent detailed analysis, considering their effectiveness, cultural appropriateness, and potential for transferability within the PIET-T framework. Key stakeholders provided input on intervention feasibility and country- and context-specific adaptation.

Results: Three interventions were identified as promising for MMR and HPV vaccination uptake: two health promoter interventions and a school-based vaccination one. The health promoter intervention was adapted so to involve health professionals and trusted community members delivering culturally sensitive education and navigation support, addressing barriers such as language and lack of information. The original school-based program implements education sessions and on-site vaccinations, leveraging the trusted environment of schools to reach parents and children. On-site vaccinations were omitted since they were not relevant to the Greek context due to legal barriers.

Conclusions: Our stakeholder-engaged approach, guided by the PIET-T framework, ensures interventions are tailored to the specific needs and contexts of different migrant communities in Greece. By prioritizing cultural sensitivity and community involvement, we aim to enhance MMR and HPV vaccination uptake and improve health outcomes among migrant populations.

Abstract citation ID: ckae144.530
Tailoring vaccination interventions for the Turkish and Moroccan communities in the Netherlands

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Background: People with a Turkish or Moroccan migration background in the Netherlands have low HPV vaccination uptake. Health system barriers, including a lack of awareness raising initiatives on HPV, health care professionals being insufficiently trained to provide tailored care and insufficient delivery of HPV (vaccination) information, contribute to low uptake. To understand which promising interventions could be transferred, the interventions were discussed with a variety of stakeholders including community members.

Methods: By interviews and focus groups 33 key stakeholders were engaged to discuss on the promising evidence-based interventions. The interventions were extensively discussed on their effectiveness, cultural appropriateness, and potential transferability for which the Population-Intervention-Environment-Transfer Model of Transferability (PIET-T) model was used.

Results: Two interventions will be implemented of which one is focusing on the use of health promotors (trusted community members) who will provide parents of vaccine-eligible children with information on HPV and HPV vaccination. The educational sessions will be held together with health professionals in, for example, community centers or at schools. The other intervention focuses on training of healthcare professionals.

Conclusions: By engagement of key stakeholders including community members following the PIET-T model, final interventions could be developed that are tailored to the specific needs and contexts of people with a Turkish or Moroccan migration background in the Netherlands.

Abstract citation ID: ckae144.531
Bridges between evidence on vaccination intervention and Ukrainian migrant community needs in Poland

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Background: Vaccination coverage in Ukrainian migrants' (UM) children is lower compared to their Polish counterparts. We aimed to identify and adapt effective evidence-based interventions which would address health system barriers to HPV/MMR vaccination in this community.

Methods: With the help of the Participatory Action Research (PAR) approach, 4 researchers, 6 experts, 6 UM, 7 Ukrainian GPs and 3 teachers identified and discussed transferability of promising HPV/MMR vaccination interventions and their adaptation from the Polish and contextual perspective. The Population-Intervention-Environment-Transfer Model of Transferability (PIET-T) model was used to accompany the steps for determining transferability.

Results: Three intervention elements were considered as capable for increasing HPV/MMR vaccination uptake: a health promoter, group educational sessions and an online provider training. Adaptations were needed to make them consistent with the contextual needs. The intervention was adapted to involve Ukrainian GPs delivering culturally sensitive education and a Ukrainian coordinator offering navigation support; barriers (lack of information/language barrier) were addressed. The education sessions for parents were taken into account as having potential to increase knowledge and facilitate making informed decisions regarding vaccination. The online education course was assessed as a strategy to possibly enhance GPs knowledge to let them make strong HPV/MMR vaccine recommendations to UMs.

Conclusions: Both, community-based PAR approach, and the PIET-T model, facilitated the assessment of intervention transferability and adaptation in terms of covering the individual context, pattern and needs of UMs community in Poland, to finally increase HPV/MMR vaccination uptake.

Abstract citation ID: ckae144.532
Tailoring intervention targeting HPV vaccination in marginalized Roma communities in Slovakia

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Background: Marginalized Roma communities (MRCs) are among underserved groups facing limited access to vaccination services and presumably low HPV vaccination rates. The most significant health system barriers to HPV vaccination include financial costs, lack of appropriate information and restricted capacities of healthcare providers. Two interventions identified as promising for implementation in the context of MRCs were discussed with a variety of stakeholders and community members to tailor intervention that would be well accepted and effective to increase HPV vaccination rates in MRCs.

Methods: The first intervention uses health promoters - trusted and trained community members to address cultural and language barriers and serve as a vital link between healthcare providers and community members. The second multilevel intervention is providing education, navigation, and vaccine access. Initial discussions were conducted with 23 stakeholders, and follow-up discussions were held with 16 stakeholders, including representatives of healthcare professionals, schools, local authorities, and community members.

Results: An intervention to be implemented in Slovakia focuses on the use of Roma health mediators who will provide parents and vaccine-eligible children (12-14 years old) from MRCs with information on HPV and HPV vaccination, invite them to educational sessions organized in community centres and at schools and navigate them through the vaccination process. The intervention also combines components such as videos and discussions with healthcare professionals, aligning with the needs and wishes of the target group.

Conclusions: This intervention will help to deliver reliable and understandable information on vaccination and enable people from MRCs to make informed decisions about vaccination. Roma health mediators will take the burden of providing information from overloaded healthcare providers and navigate community members through the vaccination process.

8.O. Oral presentations: Sexual and gender minority health

Abstract citation ID: ckae144.533
Skills and competences of sexuality educators. Evidences from a qualitative research in Italy

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Background: The scientific literature recognizes the strategic role of educators in sexuality education projects in schools. If, however, there is often a discussion about the most effective professional figure (teachers, school experts or external experts), there is a little attention to the skills and competences that an educator should possess and to which he or she must be trained. Adopting a Comprehensive Sexuality Education (CSE) approach, which is evaluated as the most effective, it is necessary to consider a skill set for educators that should not be limited to the knowledge in the area of sexual health promotion and risk prevention.

Methods: In order to build evidence-based competencies and skills, a qualitative study was conducted. A total of 72 educators involved in school-based CSE interventions in 4 Italian Regions, in 24 middle and secondary schools (68 classes), during 2 consecutive school years were enrolled. Before, during, and after the activities in the classrooms, qualitative feedback was collected, through reflective journals written by educators themselves. These data were analyzed through a qualitative approach, according to the principles of empirical phenomenology.

Results: The phenomenological evidences confirm the need to overcome the conception of educator as instructor equipped only with knowledge in the field of sexual health. It is considered fundamental to possess and develop pedagogical competences and skills, such as: caring attitude, teaching skills, theoretical awareness, capacity to manage the unexpected. Moreover, educators reported the necessity of an initial and continuous training on these dimensions considered as the most challenging.

Conclusions: The research confirms the complexity of the competency profile of CSE educators. Therefore, their professional development should include tailored designed multi-disciplinary training programs, with particular attention to the pedagogical dimension.

Key messages:

- Comprehensive sexuality education requires an adequate professional figure intended not as an instructor aimed only at risk prevention and health promotion, but as a real caring educator.
- Pedagogical skills and competences should be included in the training processes for sex educator, through adequate activities.

Abstract citation ID: ckae144.534
HIV-1 transmission clusters and drug resistance in men who have sex with men in Portugal

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Introduction: In 2022, 45.8% of diagnoses in the EU/EEA with known route of transmission were in Men who have Sex with Men (MSM). We aim to characterise HIV transmission clusters and transmission of drug resistance (TDR), as well as its determinants, using integrated sociodemographic, behavioural, clinical, and viral genomic data of MSMs newly diagnosed in Portugal between 2014 and 2019.

Methods: This study included data from 340 MSM who were diagnosed with HIV-1 infection. These individuals were newly diagnosed at 17 hospitals in Portugal between September 2014 and December 2019. Phylogenies were constructed and transmission clusters were identified with branch support $\geq$ 90% and 1.5% genetic distance. Logistic regression models were computed to examine the factors associated with clusters of transmission and with the presence of TDR.

Results: We identified 38 transmission clusters with 104 MSM, which included 26.6% of the total 305 MSM from our database used for cluster analysis. The overall prevalence of TDR was 8.2%. Only subtype C was significantly associated with TDR. 10.5% of the clusters had at least 1 drug resistance mutation (K103N, L90M or N88S). There was no significant difference in the prevalence of TDR between MSM inside and outside clusters. 50% of the clusters were composed of portuguese native MSM only, whereas 16% had exclusively migrant MSMs. No significant difference was found in the proportion of portuguese and migrant MSM inside and outside clusters. Factors associated with HIV-1 transmission clusters were age at diagnosis, district of residence, unprotected anal or vaginal sex with a woman, HIV testing frequency, presenter status and subtype. 87% of men engaged in sexual activity only with other men, while 13% with both men and women.

Conclusions: Specific subgroups of MSM are contributing to HIV dissemination in Portugal. Direct and precise prevention measures based on molecular epidemiology should be developed.

Key messages:

- Specific subgroups of MSM are contributing to HIV dissemination in Portugal.
- Direct and precise prevention measures based on molecular epidemiology should be developed.

Abstract citation ID: ckae144.535
Exploring the mental health impact of asylum-seeking of sexual minority men: a qualitative study

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Background: Sexual minority individuals, often called LGBTQ+, encounter significant danger and violence in some countries worldwide. This forces many to seek asylum in a range of European countries. The study aimed to explore the experiences of seeking asylum and its implications for the mental health of sexual minority forced migrant men in Sweden.

Methods: An exploratory qualitative approach was used, and 15 adult gay and bisexual cisgender men were interviewed individually. Participants were recruited through a combination of purposeful, convenience, and snowball sampling. Systematic text condensation was used to analyze data. The analysis was conducted in close collaboration with three migrants with lived experience.

Results: The asylum-seeking process proved emotionally challenging, involving procedures with negative impacts on mental health. Challenges included disclosing intimate information during asylum interviews and enduring long periods of uncertainty with limited information on asylum case progress. Fundamental to participants' experiences were the behaviors and attitudes of the professionals involved in legal procedures. Disrespectful and homophobic conduct during asylum interviews, enacted by interpreters and caseworkers, had been experienced by participants. The accuracy of interpretation emerged as crucial, possibly influencing the outcome of asylum claims as well as participants' comfort in sharing information.

Conclusions: Sexual minority men seeking asylum in Sweden find themselves in an unfamiliar and emotionally challenging position. The challenges highlighted in this study implicates that the stressful asylum process may lead to health burdens among this population. The study emphasizes the critical role of a safe, affirming and supportive environment for asylum seekers. Further research is needed to develop effective support methods to ensure the health and well-being of sexual minority forced migrant populations during the asylum process.

Key messages:

- The stressful asylum process may lead to health burdens among forced migrant sexual minority men.
- There is a need for public health action to develop effective support methods addressing the mental health challenges faced by sexual minority forced migrants during their asylum process.

Abstract citation ID: ckae144.536
Individual fluidity of sexual identity in Stockholm County, 2010 to 2021

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Background: Sexual fluidity is key to understanding the size of sexual minority populations and analyzing the socioeconomic disparities these populations face. This study explores the stability and changes in sexual identity over time, and identifies key demographic factors that predict shifts in sexual identity.

Methods: We analyzed longitudinal data from the Stockholm Public Health Cohort, following 36,398 participants from 2010 to 2021. Sexual identity was measured using a self-administered questionnaire in 2010, 2014, and 2021. Demographic data from 2010 were collected from the Swedish national registers. Multivariate Poisson regression with robust variance estimators was used to identify demographic factors that predicted identity changes. Results were presented as proportion or risk ratio (RR) with 95% confidence interval (CI).

Results: Overall, 12.1% (95% CI 11.8%-12.5%) changed sexual identity at least once in 2010-2021, including 10.4% (10.0%-10.7%) among those initially identifying as heterosexual in 2010, 41.3% (37.1%-45.6%) as homosexual, 59.6% (55.0%-64.0%) as bisexual, and 65.0% (59.4%-70.3%) as uncertain. Multivariate analyses showed that sexual minorities (homosexual: RR 5.00, 95% CI 4.45-5.61; bisexual: 6.68, 6.04-7.38; uncertain: 3.88, 3.30-4.55), females (1.28, 1.21-1.35), younger (18-29 years: 1.49, 1.30-1.70) and older (> =60 years: 2.07, 1.92-2.22) ages, born outside Sweden (Europe: 1.21, 1.11-1.32; Outside Europe: 2.90, 2.62-3.21), and lower education (< =9 years: 2.14, 1.98-2.31; 10-12 years: 1.43, 1.34-1.53) and income (100 SEK/year) (< =2,500: 1.83, 1.66-2.02; (2,500, 3,500]: 1.32, 1.19-1.46) independently predicted a higher probability of identity changes.

Conclusions: This study provides the first insights into sexual identity fluidity in a large general population sample in Sweden, highlighting its fluid nature. Future research is needed to unravel the intricate mechanisms underlying the demographic disparities in sexual identity fluidity.

Key messages:

- This study provides the first insights into sexual identity fluidity in Sweden, highlighting its fluid nature.
- Future research is needed to unravel the intricate mechanisms underlying the demographic disparities in sexual identity fluidity.

Abstract citation ID: ckae144.537
Defining child maltreatment for research and surveillance: a Delphi study in 34 countries

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Background: Child maltreatment is a complex public health issue that has consequences across the life-course. Studies to measure child maltreatment and identify interventions and services are constrained by a lack of uniform definitions across sectors and countries. We conducted a Delphi study to reach consensus on types and characteristics of child maltreatment for use in surveillance and research in Europe.

Methods: Statements were developed following a scoping review and identification of key concepts by an international expert team ($n = 19$). A multidisciplinary expert panel ($n = 70$) from 34 countries participated in three rounds of online data collection. We defined consensus as $\geq 70\%$ agreement or disagreement with each statement after the final round.

Results: Consensus was reached on 26/31 statements, with a participant retention rate of 94%. The definition states that child maltreatment is a subtype of violence against children. The perpetrator can be an adult or minor, but must be in a position of power over the child. To define an act or omission as child maltreatment, it must cause harm or have the potential to cause harm, regardless of intention, severity, chronicity, or the traditional/cultural beliefs of the perpetrator. In addition, the broad umbrella term encompassing emotional, behavioural or cognitive maltreatment should be "psychological", and psychological maltreatment should be split into sub-types of psychological abuse and psychological neglect. "Neglect" is a broad type of child maltreatment within which there are subtypes that can all be characterised as "failure to provide" or "failure to supervise".

Conclusions: This is the first study to demonstrate consensus on the types and key characteristics of child maltreatment across multiple sectors and countries, providing a unified definition of child maltreatment to improve consistency of measurement and surveillance in Europe. This abstract is submitted on behalf of Working Group 1 COST Action 19106.

Key messages:

- A standardised definition is essential for monitoring child maltreatment.
- We propose a consensus-based definition that can be used to improve child maltreatment measurement in research and surveillance.

8.P. Scientific session: Lessons-learned from recent foresight studies to support policy making?

Abstract citation ID: ckae144.538

Organised by: EUPHA-FS, RIVM (Netherlands), Instituto Superior Técnico (Portugal), RAND Europe
Chair persons: Henk Hilderink (EUPHA-FS), Ana Vieira (EUPHA-FS)
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Though foresight is still relative new regarding applications to public health, their number is rapidly growing. Recently, several foresight studies have been published with different health angles. These foresight studies have in general the purpose to support and improve the policy making process. Policy making that is foresight-informed, e.g. policies that account for possible futures and the uncertainty they encompass, will hopefully be better in achieving policy goals than without foresight. However, policy makers in general have a relatively short time horizon, may not welcome uncertainty and have many other aspects to account for when developing their policies. In this workshop, the link of foresight studies with policy making, also referred to as knowledge translation will be the focal point. The workshop will start with and interactive Mentimeter session to get a better view on how the audience is familiar with foresight and knowledge translation. Then, a brief presentation is given as introduction to foresight and a systematic way of doing knowledge translation, applied to foresight, explaining the basic concepts to level understanding of the audience. This is followed by three presentations of foresight studies on specific topics (Screening, AMR, Substance use) focussing on their link withing policy making. Next, two broader foresight studies will be presented (i.e. Dutch PHFS 2024 and the future of public health in Europe). These provide good examples on how broad future public health are analyzed and can be linked to public health policy making. The workshop will be concluded with a discussion with presenters on the lessons learned regarding foresight and the link to policy making.

Key messages:

- Foresight studies in the field of health are maturing by a stronger link to policy making.
- We can learn from recent foresight studies how to do better knowledge translation regarding foresight.

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The future of screening and early detection in the Netherlands: a foresight study to support new screening policy strategies

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The Dutch government provides several population screening programmes intended for early detection of diseases so that prompt treatment can be provided. These include population screenings for various forms of cancer and screenings for specific diseases in unborn and newborn children. The future provision of these screenings is influenced by various developments, including the ageing population, economic fluctuations and technological advancements. To understand these developments and their potential impacts on the future of screening and early detection, RIVM has conducted a foresight study based upon a systematic six-step approach. Important steps in this process are building a conceptual framework, identifying important developments via horizon scanning, selecting scenario logics and making scenarios in order to select important challenges and opportunities for the future. The final output of the foresight study consists of a broad horizon scan, two simple future scenarios and four societal perspectives on screening and early detection. In this foresight study, there was special attention for the role of different societal perspectives and the variation in desirable futures that these perspectives entail. These perspectives were presented to the Ministry and other important stakeholders in the future strategy planning, by playing a serious role game. The results of the foresight study and the experience of looking to the future through various perspectives forms the input for the Dutch Ministry of Health, Welfare and Sport in formulating a strategy for the future of screening and early detection and making informed decisions about potential actions. The presentation will focus on how the foresight process was done and how this has informed the Ministry of Health in order for them to follow the next steps in setting future goals and ambitions and planning for a future policy strategy.

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Applying foresight methods at the national level in the field of substance use: Experience from the DRUG-PREP project

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This presentation will focus on the experience from the DRUG-PREP project. While foresight has been used in other sectors, its implementation in the drugs field has previously remained relatively limited. The application of foresight to the drugs sphere is important in recognition of the fast-changing and intersectional nature of drugs and addiction. At the European level, a futures exercise was organized by the EMCDDA (as of July 2024 the European Union Drugs Agency, EUDA) to explore the future of drugs at the European level until 2030. In this landscape, the DRUG-PREP project implemented foresight approaches at the national level, to support preparedness of national drug monitoring and response systems. The DRUG-PREP partners carried out individual national exercises in six countries: Belgium, Czechia, Finland, Ireland, the Netherlands, and Portugal. The link to policy was a key aspect of the project, with each country organising a national dialogue to directly engage policymakers. The presentation will focus on the Belgian research. Horizon Scanning was performed to identify trends and megatrends with potential implications on the national drugs ecosystem, through a literature review. An expert workshop was organized to validate the trends and explore their implications. Subsequently, a small scenario building exercise was organised to explore the consequences of a clearly defined 'disruptor': the ban on opium production in Afghanistan. Finally, a national dialogue allowed discussion with stakeholders on how foresight can be integrated more structurally in the drugs field in Belgium. A summary of the results will be presented. Policymakers across all levels (local, regional, federal) have been active participants in the foresight activities and workshops. The link to policymaking has been crystallized in the integration of foresight into the new Belgian National Drugs Strategy 2024-2025.

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Future-Proofing Analysis of the 2017 EU AMR Action Plan

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Antimicrobial resistance (AMR) is a serious public health concern and has been deemed a top priority amongst public health authorities internationally. AMR is a complex issue, which is affected by a wide range of diverse factors including antimicrobial use, vaccines, surveillance, climate change and global conflicts. In thinking about how to address AMR, it is important to not only consider how multiple factors interact to contribute to the issue, but also how these factors may develop in the future. In 2017, the European Commission published the European One Health Action Plan against AMR, which set out objectives and priory areas for actions across EU/EEA Member States. This presentation will discuss the results of a future proofing study of this Plan. The study included a series of scenarios for how AMR might develop over the next ten years, in order to gather stakeholder perspectives on how the Plan can be improved to mitigate against future risks, take advantage of future opportunities and move towards more favorable futures. In particular, this presentation will focus on how this futures method was used to arrive at specific and actionable recommendations about how to better prepare for the future of AMR.

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Public Health Challenges for 2050 in the Netherlands

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Every 4 years, the National Institute for Public Health and the Environment (RIVM) carries out the Dutch Public Health Foresight Study, commissioned by the Ministry of Health. The ninth edition (PHFS-2024) compiles an outlook on future public health and the health care system in the Netherlands. It combines a business-as-usual Trend Scenario with literature study and a range of qualitative and mixed-methods approaches. The Trend Scenario comprises projections up to 2050 for a broad range of epidemiological indicators. Such as (healthy) life expectancy, disease burden, life style factors. The qualitative and mixed methods approaches supported an incremental intersubjective process. Methods were a focus groups study, stakeholder sessions and workshops. An important innovation in this study was the Citizen Council and Panel. The outcomes show that demographic development, in particular growth of the group people at high age with multimorbidity, will lead to high pressure on the formal and informal health care system but also on e.g. mental health. A life course approach applied shows that decreasing mental health of youth will have long term consequences. Also, overweight will deeply impact older people's health in the future. Lastly, climate change in combination with e.g. energy transition will deeply affect our society and living environment. Next to these challenges, there will also be opportunities to improve health. Building a climate-proof living environment that also stimulates healthy life styles and social interaction is one of them. However, improving health has linkages with policy areas outside the traditional public health domain as well and requires, firstly, a Health in/for All Policies approach. Secondly a whole-of-society approach in which companies and civil organizations take action is needed. All these efforts can only be effective if people and communities are put at the core of all health policies.

Abstract citation ID: ckae144.543
The future of public health in Europe

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EuroHealthNet - in collaboration with the Copenhagen Institute for Futures Studies - has conducted a Foresight study to collect insights and identify risks and opportunities. The study investigates the role of public health by 2035 in achieving health equity through health promotion and prevention, in the context of the digital and green transition. The multi-round study ran from June to November 2023. It consisted of a workshop, a kick-off meeting, two rounds of surveys using the Delphi method, and a final back-casting expert panel. The Foresight exercise involved 35 experts across Europe and covered six themes: public health policy and governance; public health financing and spending; sustainability and the green transition; health promotion and disease prevention; equity and society; digitalisation in public health. The presentation will highlight some of the outcomes, recommendations as well as experiences from this Foresight exercise and how it can be applied in practice.

8.Q. Skills building seminar: "The Church of Fail": Learning from Our Mistakes in Co-Creation

Abstract citation ID: ckae144.544

Organised by: Aarhus University (Denmark), Glasgow Caledonian University (UK), VIA University College (Denmark), Health Cascade
Chair persons: Knud Ryom (Denmark), Danielle Agnello (UK)
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When delving into the co-creation research literature, it might seem that researchers consistently attain success in their projects without any exceptions. At the extremes, co-creation might even be portrayed as a quasi-moral scientific approach, where the results are inherently positive and beneficial to all participants. Rarely do researchers openly discuss failures or mistakes encountered during co-creation projects, despite the well-established understanding that co-creation presents significant challenges and demands for those involved. Therefore, we aim to use the well-established "Church of Fail" method to underscore the importance of learning from failures, particularly within the dynamic and demanding landscape of co-creation. Therefore, we invite participants to embrace the inevitability of failures, emphasizing that the key lies in deriving valuable lessons from these. Failures present the greatest potential for professional growth and innovation. Reasons for the workshop: Ensuring the professional growth of researchers and practitioners is vital to unlocking the full potential of co-creation and participatory methodologies. It may appear that success in co-creation is guaranteed by applying principles such as building ownership or fostering shared understanding. However, in reality, co-creation demands significant effort, resources, and dedication from everyone involved. One way to avoid mistakes or failures is to embrace them and learn from them, thereby fostering professional growth and innovation.

Objectives: This workshop will: 1) Increase awareness of co-creation as a methodology within public health, by generating an open and safe learning environment for professional growth; 2) Exchange experiences with failure, to learn and encourage professional growth. The presenters will engage the participants with cases that illustrate different known pitfalls within co-creation, such as power imbalance, participation fatigue, recruitment strategies, and aligning objectives; 3) Discuss important consideration on co-creation approaches, to achieve the best possibility for success in such research projects in public health in the future.

Key messages:

- Failure is not a flaw, but an opportunity to learn and innovate.
- Success in co-creation is not a given, even though it sometimes seems so when reading the literature.

Abstract citation ID: ckae144.545
"The Church of Fail": Learning from Our Mistakes in Co-Creation (part I)

Danielle Agnello

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Our workshop commences with a short presentation about what co-creation is, and the power that lies in learning from failures. Then, the facilitator will open the sharing session with the aim to set a safe space by presenting some ground rules for engagement. Then, the participants will be invited to step forward and share their story of failure. Each participant is invited to introduce themselves, and answer three simple questions: What did you fail at? How did you cope with it? What would you do differently? When the participant finishes their story, the facilitator will thank them and the audience will applaud them for sharing. This part of the workshop will go as long as there are people who want to share (with limitations).

Abstract citation ID: ckae144.546
"The Church of Fail": Learning from Our Mistakes in Co-Creation (part II)

Knud Ryom

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For the second activity, participants will be invited to break into smaller facilitated groups for a 'peer-to-peer' session where they will share further and discuss lessons learned and how they would do things differently going forward. They will do this by either working with one of their own failure stories/cases, or a predetermined case around critical aspects of co-creation, such as power imbalance or recruitment strategies. The groups will work with a facilitator and a template to discuss some key aspects of learning, such as what do you perceive as the failure, how could you address this, and the changes they could be made moving forward. The second session closes with each group nominating a presenter to share their reflections on the proposed solutions in plenary. The facilitator will close the workshop by inviting participants to sign up to join a collaborative effort to publish examples of failures and lessons learned when addressing complex public health challenges. This has the potential to increase awareness about the importance of embracing the power of failure, and break down the stigma that comes with admitting to your mistakes.

Speakers/Panelists:
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9.A. Pitch presentations: Transforming public health

Abstract citation ID: ckae144.547
Integrating AI in cause-of-death regular statistical production with human and expert system codings

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Background: Cause-of-death (CoD) statistics are key indicators in epidemiology and public health. These statistics are derived from death certificates completed by physicians and are usually coded by official statistics authorities according to the standards of the WHO ICD-10 classification to construct time- and cross-country-comparable statistics. For coding causes of death in free-text format in France according to ICD-10, predictions by deep neural networks (DNNs) are employed in addition to fully automatic batch coding by a rule-based expert system and to interactive coding by the coding team.

Methods: Seq-to-seq DNNs are trained from scratch on previously coded data to ICD-10 code multiple causes and underlying causes of death. Human coding is focused on certificates with a special public health interest or with low confidence in AI prediction quality to maximize the quality of the overall statistics disseminated when human resources are limited. DNNs also directly predict multiple causes and underlying causes of death for part of the certificates. Hence, the coding campaign aims to optimally allocate a coding mode to a given certificate.

Results: For deaths in 2021, 63% of the certificates are automatically batch coded by the expert system, 14% by the coding team, and 23% by DNNs. Compared to a traditional campaign that would have relied on automatic batch coding and manual coding, the present campaign reaches an accuracy of 95.7% for ICD-10 coding of the underlying cause (97.3% at the European shortlist level).

Conclusions: The 3-coding mode approach enables timeliness of dissemination of CoD statistics and may lead in the future to more responsive surveillance.

Key messages:

- Deep neural networks trained on already coded data can be integrated into the regular statistical production of the CoD database in a fully controlled way.
- The allocation between the different modes of coding can be optimized to achieve best quality and timeliness under the constraint of limited human resources.

Abstract citation ID: ckae144.548
Transforming systems and improving lives - the social movement of compassion in Wales

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Wales has embarked on a journey towards becoming an adverse childhood experiences (ACEs) and trauma-informed nation. In 2021 the Welsh government supported the co-creation and co-production of an all age, all of society framework: Trauma- Informed Wales: A Societal Approach to Understanding, Preventing and Supporting the Impacts of Trauma and Adversity (ACE Hub Wales et al 2021). This framework is not just an operating model, it has the ambition to be a social movement to embed and sustain a culture shift that is rooted in tackling the conditions of inequality in our communities and the work we do in organisations in the clinical and community settings that support, and employ, people who have experienced trauma and adversity in their lives. The starting point is that any of us can have these experiences. The trauma and ace informed toolkit sets out a process of readiness, self assessment, action planning and implementation across six domain areas which include governance and leadership, monitoring and evaluation, policy and practice. Resources and guidance are co-created and co-produced by partners already on the journey, developed and tested in environments to look at trauma-informed physical spaces, communications, workforce development, training and inclusion of marginalised voices. Supporting this work is a national community of practice, promoting good practice, sharing ideas and developing a culture of wisdom supported by reflective practice. This dynamic forum is supported by online and in person capacity and is transforming organisations and sectors including housing, education, substance misuse, criminal justice and health. It places people, compassion, kindness and empathy at the heart and is enabling traumatised systems to understand and meet the needs of the workforce and the people they serve.

Key messages:

- Systems change is sustained by compassion, kindness and love in a social movement supported by the scaffolding of an operating model.
- Public Health has a key role to play in co-developing social networks and resources to transform traumatised systems into trauma-informed places that improve lives and health outcomes.

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Effects of metaphorical communication on vaccine confidence in the adolescent population

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Vaccine hesitancy, defined as delay or refusal of vaccination despite the availability of vaccination services, has been included by WHO among the top 10 global health threats. Individual decision-making process can be strongly affected by communication. The use of metaphors is common in public health communication and increased during the COVID19 pandemic. Although some evidence has supported the persuasive potential of metaphorical language over scientific language, further research is needed. Our study aimed at comparing the effects of neutral scientific talk with war and protective metaphors on health communication. An online survey was conducted on a convenience sample of Italian teenagers randomly allocated to three study arms. Each participant was invited to watch a specific version of an informative video on infections and vaccines (group 1: neutral-scientific approach, group 2: metaphorical-war, and group 3: metaphorical-protective approach). After watching the video, each participant responded to an ad-hoc questionnaire. A total of 2681 subjects were randomly allocated to the three groups. No significant differences regarding age, sex and geographical area were detected between groups. Median age of the sample was 17 years (mean 16,8) and 56.8% were girls. The general attitude towards vaccination in group 2 and 3 was largely positive, with the majority agreeing (strongly or tend to agree) on the fact that vaccination is important (group 2: 89%; group 3: 92%), safe (group 2: 91%; group 3: 92,5%), effective (group 2: 85%; group 3: 88%), and does not generate anxiety (group 2: 80%; group 3: 83%). Higher level of distrust against vaccines was found in group 1, where 32% of participating adolescents are strongly or tend to be anxious about getting vaccinated. The results of our survey suggest that emotional involvement evoked through the use of metaphorical language may have, at least in the short run, some positive effect on vaccine confidence.

Key messages:

- Use of metaphors can be successfully used in public health communication.
- Messages evoking either war or protecting concepts are more efficacious than plain scientific language.

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Artificial intelligence – NPHIs' role in utilizing its opportunities and addressing the risks

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Issue & Problem: National Public Health Institutes (NPHIs) in many countries are at the forefront of action to mitigate the impact of current and future threats to health as well as improving population health and wellbeing. Through research, collaboration, and support, NPHIs can approach these new realities together. One of the many emerging realities that NPHIs will need to engage in is how NPHIs best can utilise the powers of artificial intelligence and deal with the ethical and legal issues that come with it.

Methods: In preparation of IANPHI's (International Association of National Public Health Institutes) Europe Regional network meeting in April 2024 a survey was conducted among the 42 members. 16 countries replied to questions, around e.g., 1) current applications of (generative) artificial intelligence (AI) in the work of institutes, 2) which experiences were made and 3) which measures NPHIs take to best utilize the possibilities and overcome challenges of AI technologies. Within four weeks 16 replies were shared.

Lessons & Conclusions: Some institutes have not yet adopted AI, while others report multiple applications but the primary areas of application vary considerably among Europe.

Applications include: summarizing and reformatting text; translation; transcribing and documenting meetings; search information in documents or databases; coding; creating visuals; literature review; surveillance of infectious diseases; disease forecasting; analysis of transmission dynamics; vaccine efficacy assessment and development; image recognition; diagnosis and prediction of diseases from medical datasets; text mining; symptom extraction; social listening; prediction of nitrate concentration in groundwater; drug analysis and measuring psychological resilience in social crisis.

Key messages:

- AI poses opportunities and risks for public health and work of national public health institutes and capacity building initiatives are essential.
- IANPHI decided to develop a joint framework for the use of AI in its member organisations with a focus on research and responsible use.

Abstract citation ID: ckae144.551

An automated approach to health misinformation monitoring on YouTube

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Background: YouTube is a social media platform associated with large viewership but little research into its role in the propagation of online health misinformation. This study proposes an automated pipeline to facilitate the collection and analysis of health misinformation on YouTube.

Methods: The pipeline relies on Python and the Youtube Data API. A preliminary test of the proposed pipeline was conducted using two videos from the channel "@BobbyParrish" (5.55M subscribers, 1.5K videos). The pipeline was used to extract two videos with large view counts and comparable like and comment counts. This extraction includes the transcript of the respective videos and engagement metrics. All the comment threads under the videos are also collected with the reply structure preserved. Then, the pipeline employs NLTK's SentimentIntensityAnalyzer to score each comment for sentiment polarity and classify into positive, negative, or neutral. The pipeline generates visualizations of the sentiment distribution and a frequency-based word cloud of emojis extracted from the text.

Results: The proposed pipeline passed the test satisfactorily. It was able to retrieve channel statistics and metrics associated with the videos on the channel. It also successfully extracted the transcript and complete comments of the videos while preserving the integrity of the reply structure found on YouTube. Automated analyses of the data resulted in comprehensive and accessible visualizations.

Conclusions: The proposed work has the potential to facilitate large-scale studies into the propagation of health misinformation on YouTube. Moreover, it can be used by public health officials to rapidly address viral videos spreading health misinformation through social inoculation. Future work includes integrating topic modelling and automatic classification of health misinformation in the analysis portion of the pipeline.

Key messages:

- The pipeline offers public health officials and researchers a rapid tool to identify and analyze health misinformation on YouTube, facilitating timely interventions.
- The pipeline enhances the ability to monitor and respond to evolving public health misinformation trends, by automating the extraction and sentiment analysis of YouTube data.

9.B. Scientific session: Promoting health in the digital age: a room to improve health literacy and digital health literacy?

Abstract citation ID: ckae144.552

Organised by: EUPHA-DH, -HL, -HP, University of Pavia (Italy), WHO Collaborating Centre for Health Literacy, Technical University of Munich (Germany)
Chair persons: Anna Odone (EUPHA-DH -IDC), Eric Breton (France)
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The workshop aims to explore innovative approaches to promoting health literacy and digital health literacy and their impact on individual and community health outcomes at different stages of life. This initiative is driven by the recognition that digital platforms and tools offer unprecedented opportunities to improve population health through health education and behavior change. The workshop will feature a dynamic and interactive format starting from plenary sessions in which speakers will provide insights into digital health promotion best practices and their outcomes, offering diverse perspectives. The added value of organizing this workshop lies in its comprehensive approach to integrating digital tools into health prevention strategies, particularly for addressing childhood smoking. By examining innovative digital interventions, the workshop provides a platform for sharing insights and strategies that leverage technology to promote healthier lifestyles among youth. This is increasingly pertinent as digital platforms become central in the daily interactions of young people. The coherence between the presentations revolves around the theme of enhancing digital health literacy as a preventive measure against health issues. The first presentation sets the stage by exploring digital tools that educate and engage young people about the dangers of smoking. The subsequent session builds on this by assessing the current state of digital health education and literacy, emphasizing the need for curriculum integration and better training for educators to support these initiatives effectively. Finally, the meta-analysis presentation ties everything together by evaluating the effectiveness of these digital interventions across various demographics, offering evidence-based recommendations for tailoring health literacy programs to diverse needs. Together, these presentations form a cohesive narrative on the critical role of digital literacy in health prevention, illustrating a clear pathway from educational content to educational infrastructure, and culminating in broad-based intervention strategies that can be adapted to different settings and populations. This coherence enhances the workshop's impact, providing attendees with a well-rounded understanding of how digital tools can be harnessed to foster long-term health improvements from an early age. Live Q&A sessions will encourage dialogue between speakers and attendees, enhancing the learning experience. By combining expert knowledge with interactive discussions, the workshop aims to share insights needed to implement effective digital health promotion strategies.

Key messages:

- The role of health literacy and digital health literacy in improving health outcomes demands that the efficacy of the most effective strategies be evaluated.
- Digital tools offer opportunities for innovative health promotion approaches and tools.

Abstract citation ID: ckae144.553
Digital interventions to prevent smoking habit among children. Is there evidence?

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Smoking remains one of the foremost preventable causes of death and disease on a global scale, with its roots often traced back to early childhood. The habit typically begins at a young age, setting a pattern that becomes increasingly difficult to break over time. This enduring issue highlights the critical need for effective preventive measures. Traditional approaches to curbing smoking among the youth-such as public health campaigns, school-based education, and legislative measures like age restrictions on tobacco purchases-have had limited success. In this context, digital interventions (DIs) have begun to emerge as a promising new frontier for tobacco prevention. Leveraging the pervasive influence of technology in young people's lives, these interventions include gamified educational programs, which transform learning about the dangers of smoking into interactive and engaging activities; social media campaigns, which can spread powerful anti-smoking messages quickly and broadly; and virtual reality experiences, which immerse users in scenarios that vividly illustrate the impact of smoking on health. These digital strategies not only offer fresh avenues for conveying important health information but also engage young audiences in a medium they find relatable and compelling. In this context, the presentation will discuss results of a systematic review aims to assess the efficacy of DI in preventing smoking, and improving knowledge and awareness about smoking damages, among children. This review is part of the PRIN project, titled: "Leo&Giulia standing for public health", whose goal is to evaluate the effectiveness of a DI aimed at school-aged children, intended to increase knowledge about the negative effects of smoking and prevent its use. Grasping the impact of DI in smoking prevention can greatly benefit public health by offering practical alternatives.

Abstract citation ID: ckae144.554
Digital health literacy in schools: empirically navigating novel data from students and teachers

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With the introduction of the Digital Competence Framework (DigComp+) by the European Commission, European schools have committed to promoting digital and media literacy systematically. DigComp+ shares several intersections with health literacy, e.g., information management, using digital tools, and taking action on the digital and commercial determinants of health, making it an ideal curriculum to teach digital health literacy in schools. However, internationally, not much is known about digital health literacy in schools. The aim of this study is to present data from a representative school study of students and teachers in 16 federal states in Germany. Data was collected using an online survey from a representative sample of N = 1,448 students (9-18 years) and a convenient sample of N = 1,600 teachers. With SPSS, descriptive statistics, chi-square tests, and internal consistency were calculated. Cronbach's alpha indicated good internal consistency for both tools. Low digital health literacy was reported by 52,9 of students and ~39,3% of teachers. In students, low digital health literacy linked with younger age (X2 (2)=34.69, p = <.001), family affluence (X2 (4)=24.16, p = <.001), and parental education (X2 (2)=8.26, p=.016). In teachers, it was linked to age ($p < .048$), school position ($p < .001$), and their own digital health literacy DHL ($p < .001$). More than 45% of teachers reported not teaching digital health literacy in schools, while on average, 55% of students indicated they would not learn it in schools. Based on the first digital health literacy in schools study, results suggest DigComp+ is almost not used to teach digital health literacy and both students and teachers have significant deficits in their digital health literacy. Teachers should be trained in digital health literacy so that they can include it in their classroom teachings to promote the digital health literacy of students.

Abstract citation ID: ckae144.555
How effective are eHealth literacy interventions? A meta-analysis of experimental studies

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The rapid evolution of digital health emphasises the need for effective eHealth literacy (eHL) to ensure equitable access to health information and improve patient outcomes. This systematic review and meta-analysis aim to assess the effectiveness of eHL interventions, addressing the significant gap in knowledge about which strategies are most beneficial. Adhering to PRISMA guidelines, we systematically retrieved, quantitatively pooled and critically appraised available experimental evidence on the effectiveness of eHL interventions across different populations. PubMed, Scopus, Web of Science, Embase, Cochrane Library, and ClinicalTrials.gov were searched for studies reporting original quantitative outcomes of eHL, assessed by the eHealth Literacy Scale or other validated scales. Data were pooled using a random-effects model, with critical appraisal of the included studies. From the 504 records screened, 15 studies met the inclusion criteria. They encompass interventions targeting adults with chronic diseases (6 studies), older adults (5), and young people (4) and examine either individualistic or collaborative approaches (respectively, 9 and 5 studies, and 1 assessing both). The meta-analysis revealed significant improvements in eHL, both pre- vs post-intervention (UMD

5.81, 95%CI 3.38-8.26, N = 1,025) and experimental vs control groups (OR 3.65, 95%CI 2.06-6.46, N = 1,258). Meta-regression showed a significant correlation between pre/post-intervention outcomes and baseline eHL levels (slope=-0.91, p-value=0.009). Our findings support the effectiveness of tailored interventions in significantly enhancing eHL, providing key insights (role of baseline eHL levels and intervention approach) for intervention design and implementation that are adaptable to various demographic contexts. This research was supported by the National Plan for Complementary Investments to the NRRP Hub Life Science-Digital Health (PNC-E3-2022-23683267, DHEAL-COM).

9.C. Round table: The Global Oral Health Action Plan – Integrating Oral Health into the global health agenda

Abstract citation ID: ckae144.556

Organised by: EUPHA-OH, -GH

Chair persons: Pauline Vassallo (Malta), Elena Petelos (EUPHA-HTA, EUPHA-GH)

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Oral diseases (OD) are a global public health problem affecting 3.5 billion people, with a global prevalence of 45%, higher than the prevalence of any other non-communicable disease (NCD). Recognizing the global public health importance, the 76th World Health Assembly (WHA) (May 2023) adopted the WHO's Global Oral Health Action Plan (GOHAP) 2023-2030; a crucial step to bring momentum and mobilise all actors to address the burden of OD and common risk factors for all NCDs, while integrating oral health (OH) as part of general health and promoting cross-sectoral cooperation on good OH worldwide to reach UHC. Drawing insights from other successful global health action plans, this roundtable (RT) will explore key lessons learned in implementing effective strategies to improve OH outcomes at European and global levels, ensuring access to quality care for all.

The objectives of the RT are: 1.To present the GOHAP 2023-2030, incl. challenges and opportunities; 2. To draw insights from other global health action plans; 3. To present good examples of civil society organization (CSO) actions supporting the GOHAP's implementation - The Manifesto of the Platform for Better Oral Health, calling for policy actions by EU policymakers; 4. To present findings from the EU DELIVER (DELiberative ImproVEment of oRal care quality) and PRUDENT projects, funded by the European Commission, aiming to provide and implement a blueprint model for ensuring access to quality OH care for all; 5. To inform follow-up actions and collaboration across EUPHA sections, its strategy, as well as that of European Member States (MS), CSOs and other institutional partners, and to raise awareness across the European public and global health communities.

The structure of the RT will include brief interactive presentations with real-time polling to maximize participant engagement and to consolidate key messages to present at the end of the session, incl. to inform follow-up actions across EUPHA. The first brief presentation on GOHAP will highlight the aims and evidence-informed actions, followed by: 1. Insights from other global health action plans, exploring lessons learned in implementing effective strategies, examining the approaches, opportunities, challenges and outcomes; 2. Good examples of actions taken by CSOs; 3. Preliminary findings from the EU DELIVER and EU PRUDENT will be presented, incl. key co-creation tools of deliberative dialogues and the development of a set of quality indicators for applicability on the practice, community and policy levels.

Guided discussion will focus on opportunities and challenges in GOHAP implementation, with the targeted questions to panellists on: What can countries learn from other global health action plans? What should be the priorities of EU MS? What is the role the public health community can play? What are key steps needed to eliminate common NCD risk factors to drastically reduce the prevalence and burden of ODs?

Key messages:

- There is an urgent need in the global and public health communities to better understand the processes involved in implementing the GOHAP, incl. challenges and opportunities.
- Interdisciplinary and cross-sectoral collaboration is key to address the common risk factors of NCDs, to inform concerted action and evidence-informed policymaking to improve oral health care.

Speakers/Panelists:

Pauline Vassallo
European Association of Dental Public Health, Valletta, Malta
Benoit Varenne
Dental Officer, Prevention of Non Communicable Disease Department, WHO, Geneva, Switzerland
Dympna Kavanagh
Chief Dental Officer, Platform for Better Oral Health in Europe, Dublin, Ireland
Neville Calleja
Department of Health Information and Research, G'Mangia, Malta

9.D. Practice session: Luton, a Marmot town – Lessons from using a whole-system approach to tackle health equity

Abstract citation ID: ckae144.557

Organised by: Luton Borough Council (UK)

Chair persons: Laura Austin-Croft (UK), Jessica Allen (UK)

Contact: sally.cartwright@luton.gov.uk

Objective: To share learnings from our Health Equity Town journey, including opportunities and challenges. To allow stimulating discussion on whole system approaches to health inequalities and the social determinants of health. To include discussion on where and how public health influences or leads, the importance of impact measures, and of shared vision.

Added value: Luton's 2040 strategy, and being a health equity town, are long term visions. It has been 18 months since we launched Luton's health equity ambition, and during that time we have taken great strides forward in how we deliver against the Marmot principles and create a movement around health equity in Luton. Organisations nationally and internationally are grappling with approaches to doing this. This workshop will provide an opportunity to discuss some of the key learnings, challenges and opportunities so far in taking this approach, and how to continue to maintain momentum and buy in across sectors at local level.

The workshop will include discussion on the following: 1. Taking a whole-system approach to health inequalities - working across system leaders and strategic partners including health, care, voluntary sector, businesses, housing, police and others, as well as across the local authority departments. This takes clear articulation of the problem and actions, as well as clarity on where public health professionals are most effective to support, influence, and lead. 2. There is increasing recognition of the building blocks of health and the importance of ensuring action to improve health outcomes is taken across the whole system to tackle health inequalities - including employment, education, and housing. Discussion on specific actions being taken in some of these areas to tackle health inequalities as part of the health equity town approach. 3. Working with the community to understand health inequalities. 4. How we will measure progress. 5. The concept of proportionate universalism is now well known, however making this a reality is a challenge. 6. East London Foundation Trust, the mental health provider in Luton, is also embedding Marmot Policy objectives across the Trust, and is a key partner in Luton. Work is underway to establish projects with joint aims such as skills passport to increase employment in mental health service users.

Format: Presentation followed by opportunity for question and answer and discussion with panel.

Key messages:

- Whole system approaches to tackling health equity are possible through shared vision and coordinated approach.
- Action across the building blocks of health is vital, the complex and long term nature is challenging.

Abstract citation ID: ckae144.558
Luton, a Marmot town – using a whole-system approach to tackle health equity

Sally Cartwright

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Issue: Luton has high deprivation and health inequalities. We have a borough-wide vision that no one should live in poverty by 2040, and have become a health equity town - committed to Marmot policy objectives and recommendations across all we do.

Description: Luton is 70th most deprived local authority in England, with stark health inequalities. To deliver the 2040 ambition, 5 pillars have been established, including tackling health inequalities. Luton has become the first Marmot Town in the UK, working with the Institute of Health Equity to develop recommendations and actions relating to the Marmot Policy objectives. Cross-sector system partnership has been key -NHS, businesses, housing, voluntary sector, university. Year 1: we mapped the Marmot recommendations to existing workstreams; completed a mixed-methods evaluation to understand system views of the approach and establish our impact measures. We established steering groups: Children and young people; Housing; Employment and skills; Net zero, they continue to embed recommendations using logic models. We have an overarching strategic approach, alongside smaller scale programmes, to create a movement. Including: grant funding; regular newsletter; training; case studies repository and annual celebration event.

Results: We have established 15 impact measures across Marmot policy areas to review annually. Qualitative evaluation findings built into work plans include: improved governance and accountability; workforce development across the system; use of logic models; Learning from best practice; sharing knowledge and learning.

Lessons: The wider agenda of Luton 2040 has enabled health inequalities to be embedded into strategic discussions; improved evidence base and clear narrative to support priorities is helpful; clear focused recommendations helps move work forwards; shared understanding of how we will measure long term impact is vital, communicating to the system is key, and long-term ism challenging.

Speakers/Panelists:
Lee Watson
East of England Public Health Training Programme, Luton, UK
Ramya Ravindrane
East of England Public Health Training Programme, Luton, UK
Chimeme Egbutah
Luton Borough Council, Luton, UK
Nasreen Ali
University of Bedfordshire, Luton, UK

9.E. Pitch presentations: Public health economics

Abstract citation ID: ckae144.559
Assessing Health Gains: A Cost-Utility Analysis

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Background: With the increase in life expectancy and the consequent shift in the epidemiology of chronic diseases, the need to enhance and measure the population's health status is even more imperative. The aim of this study is to assess health gains and their associated costs provided by an Italian clinic.

Methods: A retrospective study was conducted on 129 patients admitted for short-term planned hospitalization from June 2020 to August 2023. At both admission and discharge, these patients completed the EQ-5D-5L questionnaire. Quality-Adjusted Life Years (QALYs) were calculated from the difference in EQ-5D-5L scores between discharge and admission, assuming that health gains (discounted at a rate of 3.5%) accumulate up to two years after discharge. Cost-utility analysis was performed using QALYs and invoices issued by the clinic (cost of hospital stay: 250 Euro/day). Patients were stratified by gender, age (geriatric and non-geriatric), and length of stay (LoS). Descriptive statistics (median and interquartile range) and statistical analysis (Mann-Whitney test) were conducted using STATA software.

Results: The sample comprised 129 patients (55% female) with a median age of 81 [11] years and a median LoS of 16 [16] days. The median QALY gained was 0.33 [0.38], higher for males (0.35 [0.34]) than females (0.29 [0.45]). Patients younger than 65 years old experienced a greater gain in QALY (0.41 [0.42]) than geriatric patients (0.32 [0.38]) ($p > 0.05$). Patients with a longer LoS had a greater gain in QALY (0.35 [0.42]) than those with a shorter LoS (0.23 [0.29]) ($p < 0.05$). The median cost per QALY gained was 14,337 Euro, lower for males (13,803 Euro), non-geriatric patients (13,743 Euro), and those with a shorter LoS (10,670 Euro) ($p > 0.05$).

Conclusions: Despite disparities in QALY gains between groups, the median cost per QALY gained remained relatively constant. These findings underscore the importance of tailored interventions for effective resource allocation.

Key messages:

- Differences in QALYs indicate the need for personalized healthcare strategies to optimize patient outcomes.
- The constant cost per QALY underlines the importance of effective and efficient allocation of resources.

Abstract citation ID: ckae144.560

Estimated lifetime impact of a school-based intervention for mental health: A microsimulation study

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Background: The prevalence of childhood mental health problems is increasing. School-based interventions have the potential to reduce poor mental health and mental health inequalities. Our aim was to estimate the long-term costs and benefits of the Incredible Years Teacher® Classroom Management (IY-TCM) intervention in primary schools compared to no intervention.

Methods: LifeSim, an existing microsimulation model, was used to estimate the lifetime costs and benefits of IY-TCM by linking short-term changes in SDQ based on a previous trial in primary schools (Cluster RCT: 2075 children aged 4-9 years with a 30-month follow-up) to long-term health, social, economic and wellbeing outcomes. Benefits were measured in quality adjusted life years and wellbeing adjusted life years. We examined subgroup based on deprivation, conduct scores and parental depression.

Results: Microsimulation modelling estimated small gains in lifetime outcomes including reduced conduct disorder in adolescence and depression in adulthood. Estimates indicate IY-TCM could be cost-effective with a large amount of uncertainty (Net monetary benefit (NMB)=£21, Estimated CI = -£195, £240). IY-TCM was estimated to be more cost-effective for those with high deprivation (NMB = £231, Estimation CI - -£99, £231) and high conduct problem scores (NMB=£315, Estimated CI = £45, £483). Total net social benefit for a typical year size group was estimated to be £111m.

Conclusions: IY-TCM could be cost-effective compared to no intervention with a large estimated social benefit supporting wider implementation of IY-TCM, but results indicate a large amount of uncertainty. Greater benefits and higher certainty of cost-effectiveness for children with conduct problems and those living in a deprived area suggest IY-TCM has the potential to reduce mental health inequalities and may be more cost-effective for schools with higher deprivation and/or a high prevalence of conduct problems.

Key messages:

- The Incredible Years Teacher Classroom Management intervention for mental health in primary schools could be considered cost-effective but there is a large amount of uncertainty.
- Greater benefits for children with conduct problems and those living in a deprived area indicates the intervention has the potential to reduce mental health inequalities.

Abstract citation ID: ckae144.561

Exploring support for return-to-work: A comparative analysis of firm and country-level factors

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Background: Employers are important stakeholders in efforts to facilitate the return-to-work (RTW) of employees after sick-leave, but the available data reveal large variation in employer support for RTW across European countries and firms. This paper explores in a comparative perspective what factors at the country level and at the firm level can explain these differences.

Methods: Employer support for RTW is examined using microdata covering 31 countries from the Third European Survey of Enterprises on New and Emerging Risks (ESENER), conducted in 2019 ($N = 9{,}775$). These data are integrated with country-level indicators to capture national differences in economic incentives and institutional provisions concerning the management of sick-leave. Two-level mixed-effects logit models with random intercepts are used to estimate the impact that different firm characteristics and country-level factors have on the propensity to provide RTW support.

Results: The empty model has an intraclass correlation coefficient (ICC) of 0.345, indicating that a substantial share of the observed variation across European firms is determined at the country level. Larger establishments and those with workplace health risks are more likely to provide RTW support. Including firm-level indicators does however not reduce the observed between-country variance. Institutional differences in the economic costs of sick leave for employers, on the other hand, explain about 15% of this variance. The ICC drops more strongly after including in the model policy indicators that capture activating elements in the social security system and the existence of national policies targeting RTW. The full model explains almost two thirds (62.8%) of the observed between-country variance.

Conclusions: The findings highlight that only in few European countries employers are systematically involved in RTW support and strengthen the case for comprehensive policy strategies to engage employers in worker activation.

Key messages:

- Employer characteristics, such as firm size, impact the propensity to provide RTW support, but they do not explain the large between-country variation that we observe across Europe.
- Comprehensive national policy strategies and institutional incentives are crucial to engage employers systematically in RTW efforts.

Abstract citation ID: ckae144.562
Cost-effectiveness analysis of screening three-year old for social-emotional problems

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Aim: To assesses the long-term cost-effectiveness of a population-based screening to detect social-emotional problems at 3-years-old combined with an evidence-based intervention to prevent mental health problems.

Methods: A decision-analytic Markov model compares two alternatives 1) all 3-years-old get screened for social-emotional problems, and parents for children at a high risk receive a generic targeting parenting intervention 2) no screening and no intervention. The cohort of 3-year-old is modeled until they are 19 years old. The screening test is the ASQ:SE and the intervention was given to children with scores that suggest social-emotional problems. The model considered development of anxiety, conduct problems, and ADHD, over the 16 years. The analyses were done from a societal and healthcare perspectives. Health outcomes were assessed with DALYs averted.

Results: Results suggest that the probability of population-based screening for social-emotional problems combined with the parenting intervention to high risk-children being cost-effective is high, adopting a societal and healthcare perspective, 98% and 97% each. From a societal perspective, the likelihood of cost saving is high, 85 %. The combination of screening and intervention strongly dominated the comparator.

Conclusions: The findings align with previous research; prevention aimed at children's mental health disorders will likely yield high investment returns. Successful implementation of population-based screening for social-emotional problems combined with an effective evidence-based parenting intervention might be an important way to contribute to sustainable and efficient mental health care.

Key messages:
- The impact of combining population-based screening with intervention is encouraging when considering a long-term view.
- Prevention aimed at children's mental health will likely yield high investment return.

Abstract citation ID: ckae144.563
Cross-country price comparison of institutional long-term care: In search of suitable data

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Background: In European ageing societies, the national expenditure on institutional long-term care (LTC) has been growing for decades, currently exceeding 1% of the GDP in many countries. At the same time, however, comparative analyses of (day) prices in the nursing and residential care facilities (NRCFs) are still lacking. The data reported by international databases vary substantially in the services they cover which makes cross-country comparisons very difficult.

Methods: We combine publicly available data from Eurostat (System of Health Accounts), OECD and national sources on the number of recipients of LTC in NRCFs, the number of beds in NRCFs and the expenditure on LTC in NRCFs in over 20 European countries. Our aim is to compute internationally comparable daily prices of LTC in NRCFs using gross-costing approach. We first validate the data by cross-checking and documenting which health care functions and providers are reported by each country. Second, based on that we identify countries with comparable data and, third, perform a cross-country comparison of the daily spending on LTC in NRCFs.

Results: The reported data vary substantially with respect to their coverage. For instance, while some countries include NRCFs for all disabled people at all ages, others focus only on the NRCFs for the elderly. The ways the beds and the recipients are counted also show substantial variation. Moreover, we found inconsistencies in the reported numbers not only between but also within countries.

Conclusions: The considerable cross-country diversity in the LTC provision within the NRCFs poses inevitable challenges to international standardised reporting. Our analysis shows, however, that at least some of the challenges can be overcome by, e.g. improving the consistency of the reported numbers at the country level.

Key messages:
- A consistent definition application markedly improves the comparability of data on LTC in NRCFs.
- Given the rising demand for and economic importance of the LTC sector standardised data on NRCF services are greatly needed.

Abstract citation ID: ckae144.564
Changes in opinions on health insurance benefits deservingness in the Netherlands between 2013-2023

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Background: In many European countries, including the Netherlands, the healthcare system is financed according to the principles of solidarity. Although people are generally highly supportive of collectively financed healthcare services, some groups are considered more deserving of health insurance benefits than others. Increasing knowledge of the health risks of certain lifestyle choices and pressure on healthcare systems may result in changing opinions on the allocation of resources. Our study looks into changes in citizen's opinions on the deservingness of different groups between 2013 and 2023.

Methods: Questionnaires were sent out to samples of 1.500 members of the Dutch Health Care Consumer Panel in 2013, 2015, 2017, 2019, 2021, and 2023. Response rates varied between 42% (2015) and 56% (2021). Deservingness was studied by asking respondents about their opinions on the amount of health insurance premium for different, opposing groups, for example older and younger people and those with a healthy and unhealthy lifestyle (group A should pay more, both groups should pay the same amount, or group B should pay more). Multinominal logistic regression models were used to examine changes in deservingness opinions over time.

Results: Our study showed year-to-year fluctuations in opinions on the premium amount for health insurance for different, opposing groups. However, no distinct increases or decreases were observed over the whole time period. This applies to both the general population and to people who do and do not belong to the different groups.

Conclusions: Although there are differences in the degree to which groups are considered deserving of health insurance benefits, deservingness opinions were found to be fairly stable in the Netherlands between 2013 and 2023. Our results do not point to increasing support for premium differentiation based on personal characteristics. This suggests that support for solidarity in healthcare financing is not in decline.

Key messages:

- Opinions on the deservingness of health insurance benefits of different groups were found to be fairly stable in the Netherlands between 2013 and 2023.
- No evidence of increasing support for premium differentiation based on personal characteristics was found.

Abstract citation ID: ckae144.565
The corporate political activity of Portugal's food industry: enhancing public health transparency

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Background: This study in Portugal aims to monitor the Corporate Political Activity (CPA) in the food industry. Portugal provides a compelling case study due to its robust implementation of public health policies.

Methods: A systematic qualitative approach proposed by Mialon et al., a part of the INFORMAS Module 3, was employed. This method is based on the analysis of publicly available information. Key industry actors were selected through expert consultation and market analysis using EuroMonitor data. Information sources included industry, government, and academic materials accessed via websites and news. A thematic qualitative analysis was conducted involving iterative steps: identifying CPA practices based on predefined strategies - Taxonomy of Action Strategies: access and influence policymaking, use the law to obstruct policies, manufacture public support, shape evidence, displace and usurp public health, and manage reputations -, recording methods in a database, and saving evidence. Data collection spanned October 2023 to April 2024, covering materials from 2022 to 2023.

Results: Twenty-five key players were identified, including processed food and non-alcoholic beverage manufacturers, fast food companies, food retailers, and national trade associations. Food retailers, notably Jerónimo Martins, Lidl, Mercadona, and Sonae, showcased a higher prevalence of CPA. Nestlé and Sumol+Compal also emerged as prominent actors. The food industry in Portugal employs diverse strategies and tactics primarily focused on shaping evidence and managing reputations. While instances of displacing public health priorities and manufacturing public support were observed, they were relatively fewer. Only APED and FIPA showed engagement in policymaking influence.

Conclusions: Vigilant monitoring of CPA in the food industry in Portugal reveals dominant tactics of shaping evidence and managing reputations. Understanding these strategies is vital for policymaking to safeguard public health.

Key messages:

- The food industry in Portugal employs diverse strategies, primarily shaping evidence and managing reputations, to influence public health policies.
- Monitoring the Corporate Political Activity is key to preserving the integrity of public health policymaking in Portugal's food industry.

9.F. Pitch presentations: Social security, work and health

Abstract citation ID: ckae144.566
Collaboration between general practice and sickness benefits office - A Scoping Review

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Background: Effective collaboration among stakeholders is essential in supporting return to work (RTW) processes for individuals on sick leave. Yet sickness benefits office and general practice experience a lack of collaboration. This is echoed by individuals on sick leave. This scoping review aim to map existing literature on collaboration between sickness benefits office and general practice in RTW processes to identify both collaboration activities and underlying conditions influencing the collaboration.

Methods: A systematic search of peer reviewed literature was conducted across five databases in March 2023. Screening and data extraction were conducted by two independent researchers. Extracted data was mapped and activities and underlying conditions were analyzed following descriptive thematic analysis. Tentative results were discussed with a reference group.

Results: Among the 7471 papers screened, 21 met the inclusion criteria. Certificates was the most common collaboration activity. Of underlying conditions far more barriers compared to facilitators were identified. Barriers encompassed conflicting opinions, opposing roles, communicating via certificates, and time. Facilitators included personal communication and knowledge.

Conclusions: The number of included papers reflects a limited emphasis on this domain within research endeavors. The prevalence of barriers outweighing facilitators underscores the challenges inherent in this collaboration. General practice is depicted as advocating for their patients while the sickness benefits office pushes for return to work. Scarcity of time induces several challenges, impacting e.g., availability for personal communication and delays.

Key messages:

- Stereotyping and opposing roles, poor communication and time constraints are major barriers that need to be addressed to enhance future collaboration.
- Meetings and mutual knowledge about working conditions including legislations and procedures benefit the collaboration.

Abstract citation ID: ckae144.567
Employees' work ability during returning to work with common mental disorders: a mixed methods study

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Background: A main goal during the return to work (RTW) process after a long-term sickness absence due to common mental disorders (CMDs), is to restore and maintain an employees' work ability to enable sustained work participation. To date, surprisingly little research has examined the concept of work ability during the RTW process with CMDs. To better understand how to restore employees' work ability during RTW with CMDs, both quantitative and qualitative research is needed. The goal of this mixed methods study is to expand the understanding of restoring work ability during the RTW process with CMDs.

Methods: In this mixed methods follow-up study of N = 286 participants, work ability was quantitatively assessed with the Work Ability Score (WAS, range 0-10) at five measurement points (0, 6, 12, 18 and 30 months) during 30 months of follow-up. In a subsample, the qualitative work ability experiences of N = 32 participants were jointly analysed with their quantitative work ability ratings at 6 and 12 months.

Results: In the joint analysis, three groups of qualitative work ability experiences together with their respective quantitative work ability ratings emerged: Employees with (1) poor work ability (WAS 0-3), who did not RTW yet and described great difficulties in coping with everyday life; (2) moderate work ability (WAS 4-6), who mainly did RTW, but still showed a certain level of fragility; and (3) good to very good work ability (WAS 7-10), who mainly returned within 12 months and reported many individual and work accommodations to restore and maintain their work ability.

Conclusions: The joint evaluation of work ability ratings and experiences allowed a deeper understanding of restoring work ability during the RTW process. This knowledge may help occupational health professionals and other key RTW stakeholders to provide more tailored support during the RTW process and to promote a sustainable RTW for employees with CMDs.

Key messages:

- Restoring and maintaining the work ability of employees with common mental disorders during the return to work process is crucial for their sustained work participation.
- Achieving a good to very good work ability helps returning employees with common mental disorders to 'stay and thrive' at work again.

Abstract citation ID: ckae144.568
Work resumption and economic independence among women with paid employment one year after childbirth

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Background: In Europe, women are more likely to be unemployed compared to men. Also, they more often hold part-time employment. After pregnancy and childbirth, women often reduce their working hours further or even exit the workforce altogether. This not only impacts their individual career, financial stability, and economic independence, but also their own health and well-being and that of their offspring.

Objectives: We aim to study the patterns of women's work resumption in the first year after childbirth, and if sick leave during pregnancy and birth outcomes small for gestational age (SGA) and preterm birth play a role in this. Data from Statistics Netherlands and the Dutch Perinatal Registry from 114,722 Dutch pregnant women in paid employment (2016) were used for the analyses. Next to descriptive analyses, multivariate regression was used to assess which factors contribute to economic independence one year after childbirth.

Results: After pregnancy, over 50% of women reduced their working hours, and 12% became unemployed. The largest reduction was found in the group working fulltime (from 31 to 11%), in contrast, the group working 20-25 hours per week increased from 19 to 28% one year after childbirth. Among the women with sick leave during pregnancy (11%), the decrease in working hours was more pronounced and almost 40% of them became unemployed. The percentage of women being economically independent changed from 88% at the onset of pregnancy to 78% one year after childbirth. Next to employment factors (working hours and contract type), migration background and lower education were associated with lower odds of economic independence. Moreover, sick leave during pregnancy and having a SGA baby also reduced the odds of economic independence.

Conclusions: After pregnancy, women tend to work less than before, or even exit the workforce, with considerable impact on their economic independence. This is even more pronounced in the group with sick leave during pregnancy.

Key messages:

- Despite paid maternity leave, pregnancy and childbirth negatively impact work force participation in women.
- The need for sick leave during pregnancy is predictive of reduced work resumption and economic independence one year after pregnancy.

Abstract citation ID: ckae144.569
Sickness absence due to mental and somatic diagnoses by occupational class in Finland, 2011–2021

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Background: Sickness absence (SA) due to mental disorders has strongly increased in Finland during recent years while sickness absence due to somatic diagnoses has continued to decrease. Research is lacking on recent trends in SA by occupational class, especially during years of increasing mental disorders. The aim of the study is to analyze these trends during 2011-2021.

Methods: National register data from the Social Insurance Institution of Finland (Kela), Statistics Finland and Finnish Centre for Pensions were linked for all employed Finns aged 25-64 for years 2011-2021 (yearly N about 2 million). SA was measured by sickness allowance, compensated by Kela after 10 days of absence. Age-standardized yearly prevalences of SA due to different diagnoses were calculated for women and men in four occupational classes over 2011-2021. Logistic regression was used to assess differences between occupational classes adjusted for age, marital status, education and region of residence.

Results: SA due to mental disorders has greatly increased in all occupational classes in Finland after year 2016 among both women and men, while SA due to musculoskeletal and other somatic diagnoses has continued to decrease. Increase in SA due to mental disorders has been largest among lower non-manual employees, especially among women, whereby also overall SA prevalence among female lower non-manual employees has reached the level of manual workers. Men show broadly similar trends but manual workers still have the highest overall SA prevalence. Relative adjusted differences between occupational classes decreased slightly between 2011 and 2021.

Conclusions: Clear occupational class differences persisted in diagnosis-specific SA throughout 2011-2021. However, the magnitude and order of the class differences changed along with increasing SA due to mental disorders. Occupational class differences should be taken into account when aiming to prevent further increases in SA due to mental disorders.

Key messages:

- Sickness absence (SA) due to mental disorders has increased in all occupational classes in Finland after year 2016, while SA due to somatic diagnoses has continued to decrease.
- Increase in SA due to mental disorders has changed the overall occupational class differences in SA in Finland largely because the increase has been strongest among lower non-manual employees.

Abstract citation ID: ckae144.570
Assessing the return-to-work mode of Dutch precarious workers with mental health issues

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Background: Mental health issues are highly prevalent among precarious workers, often leading to sickness absence, work disability, and job loss. Return to work (RTW) is more challenging for these workers, as they often lack a job to return to and have limited access to occupational health care. Perceptions and attitudes about RTW are important determinants and can be categorized into three modes within the RTW process: a passive, an ambivalent and an active RTW-mode. To identify the RTW mode, we developed the RE-MODE tool. This study aimed to assess occupational health professionals' agreement on the RTW-mode of sick-listed precarious workers with mental health issues using RE-MODE.

Methods: In a vignette study, 71 occupational health professionals from a Dutch social security institute viewed six videos of consultations between insurance physicians and precarious workers. They then used RE-MODE to assess the RTW mode and need for RTW-support. They also provided feedback on the tool's validity and usability. We used a generalized linear mixed model to analyze inter-rater agreement, inter-item consistency, and the contribution level of each item. Additionally, we calculated the content validity index and the system usability scale.

Results: The agreement on the RTW mode with RE-MODE is high (ICC 0.86, 95% CI 0.64-0.95) and on the workers' need for RTW-support moderate (0.61, 95% CI 0.31-0.84). Furthermore, the content-validity (Scale-CVI 0.83), usability (SUS 0.75), and inter-item consistency (Cronbach's Alpha 0.70) show favorable results. We are currently analyzing the contribution of each item to the total score. The items with the best overall performance will be included in RE-MODE 2.0.

Conclusions: REMODE is a valuable tool for occupational health professionals to identify precarious workers with mental health issues at risk of long-term disability. Then they can arrange targeted RTW-support. Based on the study results, RE-MODE 2.0 is in development.

Key messages:

- RE-MODE is a valuable tool for the assessment of the RTW-mode of precarious workers with mental health issues.
- RE-MODE's reliability, content-validity and usability is satisfactory.

Abstract citation ID: ckae144.571
Having paid work 1 year after disability claim in different types of mental and behavioural disorders

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Background: The majority of claimants diagnosed with a mental and/or behavioral disorder have residual work capacity, however, the chance of actual (return to) work after a disability claim assessment may differ within this diagnosis group depending on the specific type of disease. The aim of this study is to examine the associations of different mental and behavioural diseases with having paid employment one year after the claim assessment.

Methods: This longitudinal register based cohort study included all work disability applicants with mental and behavioural disorders assessed with residual work capacity in the Netherlands in 2016. Data were derived from the Dutch Social Security Institute (UWV) and were linked to register data on paid employment. ICD codes were used to categorize 11 disease groups (mental retardation, autism spectrum disorders, ADHD, somatoform disorders, adjustment disorders, PTSS, anxiety, personality disorders, mood affective disorders, addictions and delusional disorders. Multivariable logistic regression analyses were conducted separately for applicants who work and not work at time of the claim assessment.

Results: A total of 8544 claimants (mean age 45, 56% female; $n = 1915$ work at baseline) were included. In the working group being diagnosed with ADHD (OR 3.05, CI 1.08-8.61) or PTSS (OR 1.45, CI 1.04-2.02) was associated with paid work, and adjustment disorder was negatively associated (OR 0.74, CI 0.56-0.97). In the not-working group, autism spectrum disorder (OR 1.51, CI 1.02-2.22), personality disorder (OR 1.36, CI 1.02-1.81) and addiction (OR 1.94, CI 1.32-2.86) was associated with return to work, and somatoform (OR 0.51, CI 0.31-0.84) disorders and mood affective disorders (OR 0.83, CI 0.70-0.99) were negatively associated.

Conclusions: The findings of this study show different associations between type of mental and behavioural disease groups and paid employment one year after the claim assessment.

Key messages:

- The association of either remaining at work or return to work is different among mental and behavioural diagnosis groups, therefore a different approach is indicated.
- Active interventions to facilitate return to or remain at work might be indicated in specific diagnosis groups.

Abstract citation ID: ckae144.572
Impact of motherhood and social support on the wellbeing of UK female police officers and staff

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Background: Female officers and staff face gender-specific challenges, particularly, during pregnancy and motherhood. Our study explores whether and how motherhood affects mental health outcomes (e.g., probable depression and anxiety) and return to work following sickness absence (SA), considering mediating role of workplace social support.

Methods: Logistic regression analysed probable depression and anxiety using Airwave Health Monitoring Study (AHMS) data. Cox proportional hazards models assessed return to work after sickness absence, linking AHMS with sickness absence data from 26 police forces. Exposure variables were created by the interaction of motherhood status and social support, while covariates included sociodemographic, lifestyle, and work-related factors.

Results: Mothers with low social support from superiors had higher odds of probable depression (OR = 2.14, 95% CI = 1.81-2.54) and anxiety (OR = 1.86, 95% CI = 1.62-2.14) compared to non-mothers. Moderate and high social support reduced odds of depression (Moderate: OR = 0.97, 95% CI = 0.85-1.11; High: OR = 0.65, 95% CI = 0.57-0.73) and anxiety (Moderate: OR = 1.24, 95% CI = 1.12-1.36; High: OR = 0.82, 95% CI = 0.75-0.9) for mothers, but the impact varied when adjusted for covariates. Mothers with lower levels of social support were less likely to return to work after SA compared to non-mothers, as indicated by the survival analysis (Low social support: HR = 0.83, 95% CI = 0.95-1.13; High social support: HR = 1, 95% CI = 0.96-1.04). These trends persisted across social support sources-colleagues and combined support-emphasising the complex interplay between workplace social support, motherhood, mental health, and sickness absence in policing.

Conclusions: Our study emphasises boosting workplace social support for female police officers and staff, to aid them in navigating motherhood demands. This improvement can lead to better mental health, retention, job satisfaction, and organisational effectiveness, ultimately promoting community safety.

Key messages:

- Highlighting the importance of workplace social support for female police officers and staff, informs policy makers and practitioners to prioritize social support initiatives within policing.
- Lower social support was associated with a reduced likelihood of returning to work after sickness absence, particularly among mothers compared to non-mothers.

9.G. Oral presentations: Risk factors in the development of NCDs

Abstract citation ID: ckae144.573

How likely are Eastern European and Central Asian Countries to Achieve Global NCD Targets?

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Background: In Europe, premature deaths from noncommunicable diseases (NCDs) have declined significantly, except in twelve countries of Eastern Europe and Central Asia (EECA), namely Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Analyses of the long-term trends of NCD premature mortality in EECA are limited making it hard to know what to expect over the next years.

Methods: We used the 1990-2019 Global Burden of Disease database to analyze NCD trends and identify country-specific change points by using piecewise linear regression. We assessed the likelihood of achieving NCD global targets (GTs) to reduce premature mortality among persons 30-69 years old from four NCDs: cardiovascular diseases (CVD), cancers, diabetes mellitus (DM) and chronic respiratory diseases (CRD) by 25% from 2010 to 2025 (WHO25X25 target) and by 33% from 2015 to 2030 (SDG 3.4.1).

Results: Only Kazakhstan and Russia are likely to achieve NCD-GTs. For Kazakhstan, WHO25X25 and SDG 3.4.1 GTs mortality rates were 494.3 and 374.8 per 100,000 population respectively; the corresponding predicted values (PVs) were 360.6 [CI 260.1-461.1] and 245.1 [CI 113.4-376.8]. For Russia, WHO25X25 and SDG 3.4.1 GTs were 560.5 and 442.8 per 100,000 population respectively; the corresponding PVs were 427.7 [CI 270.3-585.1] and 311.0 [CI 102.8-519.1]. Achieving NCD-GTs is also possible for Kyrgyzstan. For the rest of EECA countries achieving NCD-GTs is unlikely. All EECA countries have increasing premature mortality from DM, eleven - from CRD and cancers, and six - from CVD. Most EECA countries have higher NCD rates and slower progress among men compared with women.

Conclusions: In most EECA countries the trend towards achieving NCD-GTs is slow or reversed. Further quantitative and qualitative research is needed to understand the underlying reasons. Separate indicators are needed to monitor countries' progress for cancers, DM and CRDs.

Key messages:

- Most EECA countries have slow or reversed trend in achieving NCD-GTs. All EECA have increasing premature mortality from DM, eleven – from CRD and cancers, and six – from CVD.
- Further research is needed to understand the underlying reasons for slow progress towards NCD-GTs in EECA. Separate indicators are needed to monitor progress for cancers, DM and CRDs.

Abstract citation ID: ckae144.574

Ultra-processed food intake and type 2 diabetes: A dose-response meta-analyses of prospective studies

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Studies suggested a positive association between ultra-processed food (UPF) intake and risk of type 2 diabetes (T2DM). However, the magnitude of association varies across studies due to differences in population characteristics and methodological issues. It is also unclear about the exact shape of the association and whether the association is independent of diet quality and adiposity. We conducted a dose-response meta-analysis of prospective studies to summarize the association between UPF intake and T2DM risk. PubMed/MEDLINE, Web of Science, and Embase were searched through Jan. 2024 to identify relevant studies. Using random-effects models, summary relative risks (RRs) and 95% confidence intervals (CIs) were estimated for each of the following unit increment in UPF intake: 10% (of total g/d), 100-g/d, and 1-serving/d. A non-linear dose-response meta-analysis was conducted using restricted cubic spline analysis. After screening 569 publications, 12 prospective cohort studies were included in this study. The summary RRs associated with every 10%, 100-g, and 1-serving increment in UPF intake were 1.13 (95% CI = 1.10-1.16), 1.05 (95% CI = 1.03-1.06), and 1.04 (95% CI = 1.03-1.05), respectively. The positive associations remained statistically significant after additional adjustment for diet quality, BMI, and total energy intake. The dose-response curve for g/d of UPF intake suggested evidence of nonlinearity (p-nonlinearity=0.0005), showing a steeper increase in risk at UPF intake >300 g/d. However, evidence for non-linearity was not observed with % and serving/d of UPF intake. The association did not significantly vary by method and timing of UPF assessment. Higher summary RRs were observed among studies from Europe and North America compared with those from other countries (p-heterogeneity=0.048). Our data suggest that higher UPF intake may increase T2DM risk, independent of diet quality and adiposity.

Key messages:

- Higher intake of ultra-processed food is positively associated with the risk of type 2 diabetes.
- Public health strategies should encourage healthier dietary choices by emphasizing reduction of UPF intake in dietary guidelines and implementing regulations on manufacturing and labeling of UPF.

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Ultra-processed food consumption and risk of coronary heart diseases: UK Whitehall II cohort study

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In recent decades, ultra-processed foods (UPFs) intake has increased drastically, sparking concerns about their potential impact on cardiometabolic diseases. However, large-scale cohort studies tracking UPF consumption at multiple time points remain limited. This study explores the prospective association between repeated measures of UPF intake and the risk of coronary heart disease (CHD), along with its secondary endpoints, within the UK Whitehall II study. The analytical sample tracked 7,138 midlife British participants without CHD from baseline. UPF consumption was measured using validated food frequency questionnaire (127 items) and classified by the NOVA system during three phases: 1991/1994 (phase 3), 1997/1999 (phase 5), and 2002/2003 (phase 7). This study assessed the onset of CHD and its secondary endpoints, including CHD and all-cause mortality, through medical exams and hospital records up to 2016 and 2021, respectively. Cox proportional hazards regression models adjusted for socio-demographics, lifestyle factors and total energy intake were used to explore the prospective association between cumulative average UPF intake (in quintiles) and CHD outcomes. During a median follow-up of 13 and 19 years, 589 cases and 1,314 deaths were documented. In multivariable adjusted cox models, the highest UPF consumption quintile versus the lowest quintile was associated with higher CHD incidence [HR:1.26; 95% Confidence Interval (CI): 1.02-1.55; p = 0.03]. Additional adjustment of total energy intake increased the CHD risk by 28% [HR:1.28; 95% CI: 1.03-1.58; p = 0.02]. No significant relationships were found between cumulative average UPF intake and CHD or all-cause mortality. In UK midlife adults, higher UPF intake is prospective associated with increased CHD risk. Although additional research is warranted, these findings emphasize the importance of public awareness and food policy interventions to reduce UPF intake for alleviating the population burden of CVD.

Key messages:

- Our study suggests the need for increased efforts to implement population wide strategies on regulating food processing, such as taxation and front of package warning labelling of UPF.
- Our study emphasizes UPF's role in cardiovascular prevention, highlighting the need for nutrition counseling on UPF consumption for those at risk of CVD.

Abstract citation ID: ckae144.576
Eating jetlag and risk of cardiovascular disease: prospective study of the NutriNet-Santé cohort

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Background: Social jetlag corresponds to the misalignment between biological circadian rhythms and the social rhythm imposed by society, resulting in discrepant activity/sleep schedules during work and free days. It has been associated with worsened biological parameters such as BMI or glycemic control. Eating jetlag is a related yet emerging concept defined as the difference of meal timing between free and work days. However, it has been little explored. This study aims to evaluate the association between eating jetlag and the risk of cardiovascular disease (CVD).

Methods: Dietary, anthropometric, socio-demographic and health data of 104,837 participants (79% women, mean age=42.7 years (14.6 SD)) were collected from the NutriNet-Santé cohort. Eating jetlag was calculated using time of first and last meals on weekdays and weekends, from repeated 24 dietary records, averaged during the 2 first years. It was assessed as a continuous variable or as 3 categories: 'Advance', 'Maintenance', 'Delay', compared to work days. CVD was self-reported and validated against medical records. The associations between eating jetlag and CVD risk were assessed through adjusted Cox models.

Results: During a median follow-up time of 8.1 years, 2,368 CVD cases were diagnosed. Eating jetlag showed a U-shaped association with CVD risk (HR Advance vs. Maintenance=1.05(95% CI: 0.87-1.26); HR Delay vs. Maintenance=1.08(0.96-1.21)). When the absolute value of eating jetlag was considered, there was a linear association with CVD risk (HR per 1-hour increase=1.05(1.00-1.12)). These linear trends were confirmed in categorial models (Low: ≤1h; Moderate: 1h< to ≤ 2h; High: >2h): HR Moderate vs. Low=1.05(0.94-1.18), and HR High vs. Low=1.13(0.94-1.37); however, statistical significance was not reached.

Conclusions: Our results suggest a potential role for meal timing regularity between free and work days in CVD etiology. They need to be replicated in other studies and mechanisms are yet to be fully understood.

Key messages:

- Adopting regular meal timing schemes on work and free days could be associated with a lower risk of cardiovascular diseases.
- Meal regularity between work and free days could play a role in cardiovascular health and should be further investigated.

9.H. Oral presentations: Social security, work and health

Abstract citation ID: ckae144.577
Labor market participation in people with intellectual disability – a follow-up study in Sweden

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Background: Work is vital to people's health and quality of life. The Convention on the Rights of Persons with Disabilities affirms the right to work on an equal basis with others including an opportunity to earn a living by work, but evidence shows that people with intellectual disability (ID) are at greater risk of unemployment and social exclusion. Due to the lack of comprehensive data for longitudinal follow-ups, information on long-term labor market participation (LLMP) in people with ID is scarce. This study aimed to investigate factors of importance for LLMP in individuals with ID in Sweden.
Methods: The study was based on data from the upper secondary school for pupils with ID between 2001 and 2020 (N = 26,905) and from the longitudinal integrated database for health insurance and labor market studies. A sample of gainfully employed in 2011 (n = 2,719), was followed with respect to LLMP until 2020. Odds ratios (ORs) with 95% confidence intervals (CI) for associations between educational, sociodemographic, and work factors and LLMP (i.e. gainful employment throughout the follow-up), were estimated stratified on sex.
Results: LLMP was twice as likely in men compared with women, OR 2.06 (1.78-2.58) as was work in the private sector. Factors of significance for LLMP in men and women alike were: completed national education program, OR 3.40 (3.06-3.86) and OR 2.91 (2.40-3.54), parents' education; compulsory school in mothers', OR 1.22 (1.06-1.41) and 1.24 (1.00-1.55) and in fathers' OR 1.35 (1.17-1.56) and 1.49 (1.20-1.85), while municipality of residence was significant only in men, OR 1.30 (1.10-1.56).
Conclusions: Public health prevention for disadvantaged groups requires accurate and up-to-date knowledge. Using unique register-based data, this is the first study on LLMP in people with ID in Sweden. Knowledge on what social determinants may strengthen LLMP is important since limited LLMP increases the risk of missing out on health benefits that employment may offer.
Key messages:
- There was a significant gender difference in long-term labor market participation in people with intellectual disability in Sweden.
- There is a need for increased knowledge on what social determinants may strengthen long-term labor market participation in people with intellectual disability.

Abstract citation ID: ckae144.578
Precarious employment expectancy by history of mental-health-related sickness absence in Finland

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Background: Poor mental health may lead to labour market insecurity including precarious employment and vice versa. Less is known of how mental health is associated with cumulative engagement in precarious employment over the working career. We examined how the working career is expected to be distributed into precarious and other types of employment by history of mental-health-related sickness absence.
Methods: We used a register-based 70% population sample to examine wage-earners living in Finland in 2018. Applying the Sullivan method, we calculated the expectancy of precarious and non-precarious employment between age 25 and 63 (N = 1268666) based on a novel measure (score with items on temporariness, agency employment, multijob holding, underemployment and income level) and limited employment (due to which precariousness could not be assessed) among those with and without compensated (granted after 10 weekdays) sickness absence due to mental disorders in the past five years (mental SA history).
Results: Precarious employment expectancy was higher among those with than among those without a mental SA history (2.5 vs. 1.5 among men and 3.5 vs. 2.8 years among women). The difference in the limited employment expectancy was in the same direction, but much larger among men (6.5 vs. 3.3 among men and 4.4 vs. 3.4 years among women). Men with a mental SA history were expected to spend almost a fourth of their working career with either precarious or limited employment, whereas for men without such a history the number was 13%.
Conclusions: Individuals with mental disorders have notable accumulation of precarious employment over the working career. They also spend excessive time with limited employment, which may have similar elements as precarious employment and reflect broader labour market insecurity. Attempts should be made to ensure that insecure employment conditions among people with mental health problems do not further deteriorate their health and work ability.
Key messages:
- People with mental disorders spend a disproportionate part of their working career either precariously employed or facing other insecurities in the labour market.
- Interventions aiming to promote health and work ability should take into account the interplay between poor mental health and poor employment conditions.

Abstract citation ID: ckae144.579
Predictors of disability retirement - a prediction model for disability pension application risk

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Background: Regarding the objective of preventing early exits from labor market, the late life-course years present an important timeframe. It is essential to identify the employees in the greatest risk of permanently losing their work ability. In practical applications, multifactorial models are needed to evaluate the combined effect of risk factors. In this study, the disability pension risk is modeled based on large unique register data, at the same time assessing the effect of sickness absences (SA) of different lengths.

Methods: We utilize a logistic model for the risk of filing a first-time disability pension application (DPA) based on register data on 222,321 Finnish municipal sector employees. The data include employment and sickness spells, occupations, and wages in 2016-2018 as covariates. During the 3-year follow-up, 2,969 employees filed a DPA. The data include also short SA spells, a novelty in these kinds of studies. DPA is used as a follow-up to include employees who receive a rejecting decision but still carry a physician's evaluation of diminished work ability.

Results: The resulting model can accurately predict the risk of DPA in employee groups. Age, occupation, cumulative SAs preceding the application, and the number of SA spells of all lengths, also short ones, have a significant increasing effect on the DPA risk. Proximity of the retirement age and high earnings decrease the risk of DPA. Surprisingly gender had no effect on the risk.

Conclusions: The results indicate that register-based sociodemographic data is very useful in modeling the employee DPA risk in public sector employee groups. The resulting model provides a basis for tools for predicting the risk status of employee groups for the use of employers responsible for risk management and early intervention, also allowing for the assessment of economic effects of SAs and disability risk. The presented modeling results are already utilized among public sector employers in Finland.

Key messages:

- Disability pension risk can accurately be predicted in public sector employee groups based on readily available sociodemographic register data.
- All sickness absences have a significant increasing effect on the risk of disability pension application, but the effect varies greatly depending on age and occupation.

Abstract citation ID: ckae144.580
Healthcare access for people with disabilities: a scoping review of COVID-19 policies in Europe

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Introduction: The COVID-19 pandemic raised healthcare inequalities, affecting the most vulnerable groups. There is limited evidence of whether the COVID-19 measures and the health system's preparedness for outbreaks among European countries were sufficient to cover the health access needs of PWDs.

Aim: To provide a structured overview of the COVID-19 measures and policies addressing access to primary and specialist health services for PWDs during the COVID-19 pandemic in the European Members States (MS) and the United Kingdom (UK), using ten dimensions of healthcare access by Levesque et al. (2013) and the PoliMap taxonomy.

Methods: This study followed the PRISMA guidelines for Scoping Reviews. A search strategy was employed on PubMed, Embase, Scopus, and Web of Science databases from January 2020 to January 2023. Studies published in peer-reviewed journals in English, Portuguese, and Spanish were included, informing a COVID-19 measure or policy and assessing or providing a rationale with access to primary or special healthcare services.

Results: The final search strategy yielded 2.076 results, 188 studies were reviewed for full-text analysis, and 74 were included in the final analysis. One hundred twenty-one policies or measures addressing primary or specialist care access were identified. Only thirteen target PWDs, focussing on intellectual or mental disability and addressing mental healthcare services. Results revealed that COVID-19 measures for PWDs were oriented to increase health system response capacity and reduce virus transmission, describing a predominantly negative effect on healthcare access for PWDs.

Conclusions: The needs of PWDs in access to primary and specialist care were not fully covered by the policies and measures placed during the COVID-19 pandemic among the MS and the UK. One-size approaches focussing on the attendance of COVID-19 infection with stigmatizing measures overlook the specific health necessities of this population.

Key messages:

- Adopting disabled-inclusive measures in the daily healthcare provision and engaging PWDs in the policy cycle is paramount to preparing for the next outbreak and public health crises.
- Additional research focusing on primary and specialized healthcare access during outbreaks for PWDs, especially with sensory and physical disabilities, is crucial to furthering health equity.

Abstract citation ID: ckae144.581
Sickness absence duration of stress complaints, adaptation disorder or burnout in the Netherlands

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In the Netherlands, occupational physicians can diagnose burnout when employees report sick. Their guideline distinguishes between stress complaints lasting < 3 months, adaptation disorder with complaints lasting 3-6 months and burnout with complaints lasting > 6 months at moment of diagnosis. The Four-Dimensional Symptom Questionnaire (4DSQ) is recommended to assess and monitor. The new Burnout Assessment Tool (BAT) might be an alternative. Research questions were: 1) What are the sickness absence duration, 4DSQ and BAT-scores of absentees diagnosed with stress complaints, adaptation disorder and burnout?; 2) Is the BAT a better predictor of sickness absence duration than the 4DSQ? From 2020-2023, data was collected among all 3,462 employees who were absent due to stress complaints, adaptation disorder or burnout at one large occupational health and safety service via registry data and an employee questionnaire. Results show that two-thirds of those with stress complaints, half of them with adaptation disorder and one third with burnout were absent for less than half a year. 4DSQ and BAT scores differed significantly between the three groups ($p<.05$). The BAT explained 0.8% of variance in absence duration ($p< .001$) when controlled for covariates, which explained 1.6% of variance ($p< .001$). The explanation by BAT was 1.9% within the group with stress complaints ($p = 0.002$), .4% within the group with adaptation disorder ($p=.022$) and absent within the group with burnout. Comparable results were found for the 4DSQ. The differences in absence duration between the three groups aligned with the Dutch guidelines. The BAT nor the 4DSQ were clinically relevant predictors of duration of absence for stress-related diagnoses among absentees in the Netherlands. To reduce productivity loss, it seems better to report sick when still in the stage of stress complaints than to wait until a full burnout has developed. The BAT and 4DSQ might help risk assessment in the working population.

Key messages:

- The sickness absence duration of Dutch employees diagnosed with burnout is much longer than that of those with adaptation disorder or stress complaints.
- Both the instrument recommended in the guideline and the new instrument have no clinical relevance in predicting sickness absence duration of stress-related diagnoses.

9.I. Pitch presentations: Improving healthcare delivery and outcomes

Abstract citation ID: ckae144.582

Risk of death after type of intimate partner violence (IPV) involvement

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Background: Most studies have focused on women's intimate partner violence (IPV) victimization but perpetration and bi-directional violence remain understudied.

Methods: Using linked criminal justice and population registers in Manitoba, Canada, we assessed the risk of death according to the role in IPV incidents (accused-only, victim-only, bidirectional, none). In this retrospective matched cohort study, we assembled a cohort of 212,068 adults who were followed from April 2004 to March 2023 to assess IPV incidents and subsequent death. Those involved in an IPV incident were 1:3 matched to persons with no history of IPV based on birth year, sex and marital status at the time of the incident.

Results: Men comprised 85% of accused-only, 21% of victim-only, and 50-51% in the other two groups. Overall, compared to those without IPV involvement, the adjusted Hazard Ratios for all-cause mortality were 1.38 [95% Confidence Intervals (CI): 1.28, 1.49] for accused-only, 1.39 (1.29, 1.50) for victim-only and 1.45 (1.19, 1.77) for bidirectional IPV. The associations were stronger among women, particularly that of bidirectional violence [1.24 (0.97, 1.60) among men and 1.92 (1.39, 2.66) among women]. Similar patterns were found for intentional mortality [0.96 (0.56, 1.64) among men and 2.43 (1.27, 4.65) among women].

Conclusions: There are clear sex inequities in IPV involvement. Any type IPV involvement is associated with higher risk of death, particularly among women, who comprise most of the victims.

Key messages:

- Any type IPV involvement is associated with higher risk of death, particularly among women, who comprise most of the victim.
- Use of linked criminal justice data allows studying the consequences of IPV victimization, perpetration and bidirectional violence and monitor gender inequities over time.

Abstract citation ID: ckae144.583

Facilitating subgroup identification: the use of decision trees in breast cancer screening uptake

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Introduction: Organized breast cancer screening (BCS) programs are effective prevention measures for women aged 50-69 to prevent the sixth cause of death in Germany. It is unclear which sociodemographic factors and potential interactions are associated with never-attendance. Explorative approaches such as decision trees offer an inductive approach to intersectional subgroup identification based on different computational decisions. This study discusses two approaches for estimating the likelihood of not attending BCS in Germany.

Methods: Women aged 50-69 ($N = 3{,}644$) were selected from the German 2020 European Health Interview Survey. We estimate the risk of not attending BCS first by employing cross-classification regression analysis utilising known social dimensions and second by leveraging the nodes of the best-performing decision tree as exposure variables.

Results: The first approach, adjusting for age, found that women born in Germany had 1.97 higher odds ($p = 0.015$) of never attending BCS than high-income women not born in Germany. Conditional Inference Tree (mincriterion= 0.6040046, maxdepth=3) adjusted to optimise sensitivity and the Area Under the Curve (71.43% sensitivity, 63.21% AUC), identified 8 relevant intersectional groups characterised by unique combinations of family status, perceived social support, working situation, experienced physical limitation, and region, with the highest odds of 4.85 ($p < 0.001$) of not attending BCS for women living with their couple and children or non-conventional household constellations who perceived little, uncertain or a lot of social support.

Conclusions: Using explorative decision trees for subgroup identification, the study provides more detailed insights into women at higher risk of not attending BCS in Germany, aiding, on the one hand, more precise health reporting data and, on the other hand, enhanced preventive public health interventions.

Key messages:

- Explorative decision trees for subgroup identification allow for more detailed insights into women at higher risk of not attending BCS in Germany for enhanced preventive public health interventions.
- Women living with their couple and children or non-conventional constellations who perceived little, uncertain or a lot of social support are at the highest odds of never attending BCS in Germany.

Abstract citation ID: ckae144.584

COVID-19 impact on childhood vaccination attitudes in pregnant antenatal class attendants in Rome

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Background: The COVID-19 pandemic caused a decrease in vaccination rates, impacting vulnerable populations such as pregnant women (PW), who concern about future children's immunisations. The aim of this study was to assess whether the pandemic led to changes in childhood vaccination attitudes among PW attending antenatal classes at the Fondazione Policlinico Universitario A. Gemelli in Rome. Specifically, it assessed the impact of the pandemic on the perceived usefulness of information sources, their trust in healthcare workers (HCWs) and the National Health Service (NHS), their perception of the risk of infection and severity of vaccine-preventable diseases (VPDs), and their vaccination intentions.

Methods: A repeated cross-sectional study was conducted across three flu seasons by administering an anonymous questionnaire: one before and two during the pandemic. Intention to vaccinate children was expressed as the percentage of PW who selected each vaccination from the questionnaire. Trust in HCWs and the NHS, and perception of the risk of infection and severity of VPDs were expressed as the percentage of PW who answered "quite" or "very". For the usefulness of information sources, mean scores were calculated. To assess differences of the three periods a chi-square test was performed ($p = 0.05$).

Results: Course attendance surged from 105 to 340. Significant shifts in vaccination intentions were noted: 7.5% and 10% decreases for measles ($p = 0.02$) and pertussis ($p = 0.004$), respectively, from 2019-20 to 2020-21. Perceived contagion risk decreased, but perceived disease severity increased. A significant reduction in the proportion of PW suspecting economic interest behind NHS workers promoting vaccination, and an increase in the perceived usefulness of non-institutional websites and of the advice from non-NHS physicians were noted.

Conclusions: PW's attitudes towards vaccinations might have been modified by COVID-19 pandemic, regarding risk perception and trust in NHS HCWs.

Key messages:

- Our findings suggests that PW's attitudes towards childhood vaccinations might be modified by the COVID-19 pandemic, in particular risk perception and trust in NHS healthcare workers.
- These findings could help Public Health to develop evidence-based interventions and communication strategies, to maintain vaccine confidence and mitigate potential adverse effects.

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Fighting HAIs by monitoring hand hygiene compliance in the Umberto I teaching Hospital in Rome

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Background: Healthcare-associated infections (HAIs) are one of the most common preventable complications in hospitalised patients related to increased morbidity and mortality for patients. Proper hand hygiene (HH) can decrease the prevalence of HAIs within care settings. The aim of the study was to evaluate the effects of a monitoring and feedback system on HH compliance (HHC).

Methods: Three monitoring and feedback studies have been carried out in Umberto I teaching hospital of Rome since 2021. Healthcare workers (HCWs), were trained on how to carry out the direct observation on the 5 WHO moments on HH. The data collection lasted two weeks each year. Following data collection, they were analysed and discussed annually with HCWs. A multivariable logistic regression model was constructed to identify predictors of HH compliance.

Results: A total of 15874 HH were observed, of which 40.1% in 2023. The recorded HHC was 71.0% in 2021, 75.4% in 2022 and 71.6% in 2023. Multivariable analyses showed that HHC was positively associated with female sex of observed (aOR:1.3, 95% CI:1.1-1.4), during weekend days or holidays (aOR:1.3 95% CI:1.1-1.4) and all indications with respect to 'before touching a patient'. Regarding the professional category of the observer, compared to physicians, midwives were more likely to report compliant observations (aOR=2.4, 95% CI: 1.4-4.1). On the other hand, a negative association was found with external ward staff and other HCWs and no-HCWs compared to physicians. Ward area and year of observation did not influence the probability of the outcome.

Conclusions: The results of this study revealed sub-optimal adherence to HH, with the lowest rates observed prior to patient interaction. That, coupled with the variability seen among HCWs, underlines the difficulties in achieving a uniform level of compliance. Therefore, ongoing training to raise awareness among HCWs and to repeat the survey over time identifying any major problems is essential.

Key messages:

- Monitoring the reasons for non-adherence to hand hygiene in healthcare institutions in order to formulate strategies to improve HH adherence among hospital staff is essential.
- Hand hygiene (HH) monitoring systems can produce measurable improvements in HH adherence by healthcare personnel, resulting in a reduction in the incidence of healthcare-associated infections.

Abstract citation ID: ckae144.586

Signal detection and assessment supporting syndromic surveillance during the UEFA EURO 2024

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Background: Mass gatherings like the UEFA European Football Championship in Germany pose a challenge for public health, elevating the risk of infectious disease outbreaks. The Robert Koch Institute (RKI) is performing intensified surveillance during this event, including data from emergency departments (ED). So far, no standardised process for signal detection, their assessment and communication exists for ED surveillance.

Methods: We reviewed the literature to identify an appropriate signal detection method for ED surveillance. We tested different aggregation levels of the ED data, to ensure sufficient quality with sparse categories. After consulting with international experts, we defined a standardized process for signal assessment. We developed an interactive dashboard to investigate anomalies by further analysing the ED data.

Results: We used the Farrington Flexible algorithm, but expanded its functionality to perform daily instead of weekly monitoring. Aggregating to federal state level or in five age categories provided enough daily data for the algorithm. During the assessment, identified signals will be automatically scored based on pre-defined criteria (e.g. excess number of cases, reoccurrence in previous days). Signals with a high score will be forwarded to an epidemiological assessment, where they are manually evaluated based on standardised questions (e.g. expected seasonality, disease severity). Surveillance experts at RKI discuss them further and decide the course of communication and possible further measures. We developed an interactive dashboard in which signal detection and assessment is visualized.

Conclusions: Syndromic surveillance using ED data is used as an information source for early warning during a mass sporting event in Germany. Signal detection enables the identification of potential outbreaks, while the standardized assessment process ensures an efficient way to prioritize and steer communication efforts across public health services.

Key messages:

- Syndromic surveillance using signal detection has previously proven valuable to detect potential outbreaks of infectious diseases during mass gatherings.
- A standardised signal assessment process including an automatic and manual component ensures a sustainable and efficient way to prioritize possible incidents and steer public health communication.

Abstract citation ID: ckae144.587
Parental childhood vaccine hesitancy and the National Vaccination Programme, in Portugal

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Background: Despite the invaluable contribution of vaccination to Public Health, vaccine hesitancy is increasing in the European Union. Several factors are associated with parental childhood vaccine hesitancy (PCVH). In Portugal, there are no known studies specifically addressing vaccine delay in infants.

Objectives: We aimed to estimate the proportion of parental childhood vaccine hesitancy (PCVH) up to 12 months of age in Portugal, and to determine vaccination (confidence and information) and National Vaccination Programme (NVP) associated factors.

Methods: We performed a cross-sectional study on a convenience sample, using an anonymous online questionnaire directed to parents of children up to 17 months old, living in Portugal. We performed an exploratory factor analysis, followed by logistic regression. We obtained crude (OR) and parental vaccination status' adjusted odds ratios (aOR).

Results: PCVH proportion was estimated at 1.8% (95%CI: 1.0%-3.0%; n = 790). The exploratory factor analysis resulted in five dimensions: 1. vaccine confidence; 2. access to enough/reliable information about vaccines; 3. access to NVP; 4. vaccination schedule; 5. trust in healthcare professionals' information about vaccines. Vaccine confidence (aOR=0.29, 95%CI: 0.14-0.54), vaccination schedule (aOR=0.31, 95%CI: 0.15-0.58) and trust in information about vaccines provided by health professionals (aOR=0.30, 95%CI: 0.16-0.53) were protective dimensions of PCVH.

Conclusions: The low proportion of PCVH observed is consistent with the high immunisation coverage in Portugal. Vaccination schedule, trust in vaccines, and in the information provided by healthcare professionals are factors associated with lower vaccine hesitancy. This highlights the importance of trust and healthcare professionals in maintaining high vaccination coverage in Portugal.

Key messages:

- Parental childhood vaccine hesitancy (PCVH) proportion was 1.8%. Vaccine confidence, vaccination schedule and trust in information provided by health professionals were protective factors of PCVH.
- Trust in vaccines and in healthcare professionals seem to play a key role in keeping a high immunisation coverage in Portugal.

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Quantifying Cardiovascular Disease Burden and Quality of Care Index across Four Visegrád Countries

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Background: Cardiovascular diseases (CVDs) have surged to become the leading cause of premature death in Europe. Yet, analyses examining the Quality of Care Index (QCI) and CVD burden within the 4-Visegrád (4V) nations remain notably sparse. This study aims to address this gap by comprehensively assessing both the QCI and CVDs burden across these countries.

Methods: The burden of CVDs was assessed using data extracted from the GBD-study 2019. We employed min-max normalization to standardize each health indicator, including Mortality-to-Incidence Rate, Prevalence-to-Incidence Rate, Disability-Adjusted Life Years-to-Prevalence rate, and Years of Life Lost-to-Years Lived with Disability. Subsequently, we utilized a weighted sum approach to aggregate the normalized values of the health indicators. The QCI was then derived as the sum of the products of normalized values and their corresponding weights.

Results: In 2019, age-standardized rates (per 100,000) significantly decreased compared to those in 1990. Ischemic heart disease remained the primary cause of death in all 4V countries, followed by stroke. Czechia exhibited the most substantial reduction in 2019 compared to the rates in 1990, with incidence and mortality rates decreasing by -252.55 and -308.95, respectively. Poland demonstrated the highest reduction, compared to the Central European average rates, in both incidence (-113.73; 95% CI: -125.08_-103.79) and death rates (-74.79; 95% CI: -73.53_-75.31) in 1990, and in 2019 (-175.22; 95% CI: -169.52_-178.29 and -41.55; 95% CI: -40.12_-40.64, respectively). Poland scored highest in QCI among the 4V countries, with Czechia scoring the lowest.

Conclusions: The findings underscore the imperative for continued efforts to boost cardiovascular healthcare and outcomes in the region. While the reduced ratio signals improvement, there remain avenues for refining disease management, prevention strategies, and access to care to further enhance patient outcomes.

Key messages:

- Our study on 4V nations' QCI and CVD burden underscores urgent need for sustained efforts in cardiovascular healthcare, with notable rate reductions since 1990.
- Challenges persist in managing heart disease and stroke in the 4-Visegrád (4V) countries.

9.K. Pitch presentations: Health promotion and behaviour

Abstract citation ID: ckae144.589

Health mediation for promoting cancer screening and vaccination in deprived neighbourhoods in France

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Social inequalities in health affect access to healthcare and prevention. In Marseille, these inequalities are pronounced, with 26% of the population below the poverty line. In September 2022, a health mediation and outreach program was launched in deprived neighbourhoods to promote cancer screening and vaccination by going towards populations and providing information and orientation adapted to individuals' health literacy and autonomy. We aimed to evaluate the effectiveness of this intervention. A repeated cross-sectional study compared knowledge, attitudes and practices about cancer screening and vaccination before and after health mediation interventions and between control and intervention neighbourhoods. Trained investigators administered a questionnaire door-to-door to individuals aged 18-74 years in randomly selected households. A first T0 survey was conducted in September 2022, and a second T1 survey is underway in May 2024, in 13 intervention and 26 control neighbourhoods. We compared the before-and-after participation rates and associated risk factors for cancer screening and vaccination between both areas using mixed regression models. Of the 2,647 respondents at T0, 61% were women, 43% non-native French speakers, 40% unemployed, and 53% had public health insurance. Survey respondents were socially deprived and had lower participation rates in cancer screening and vaccination compared to national levels. At T0, the cancer screening participation rate was 31% for colorectal cancer, 51% for breast cancer, and 68% for cervical cancer. Factors associated with non-participation were not believing in the effectiveness of cancer screening, not being aware of its existence or not speaking French. At T0, only 54% knew about human papillomavirus vaccine and only 35% of eligible women were vaccinated. A comparison of these T0 results with results of the ongoing T1 survey will be presented, in order to assess the effectiveness of this health mediation intervention.

Key messages:

- Health mediation promotes cancer screening and vaccination by going towards populations in deprived neighbourhoods and providing information adapted to individuals' health literacy and autonomy.
- Survey respondents were socially deprived and had lower participation rates in cancer screening and vaccination compared to national levels.

Abstract citation ID: ckae144.590

The role of interoception in lifestyle factors: a systematic review

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Interoception, the perception of the internal state of the body, has been shown to play an important role in various conditions. A clear overview of the relationship between interoception and lifestyle factors has to the best of our knowledge not yet been presented. This systematic review aims to provide insight into the current state of evidence about the role of interoception in lifestyle factors. A protocol for this systematic review was registered in PROSPERO (CRD42023465957). A systematic search conducted in PubMed, Embase, and Web of Science databases included terms such as interoception (accuracy, attention, awareness, sensitivity, or sensibility), as well as lifestyle factors (alcohol consumption, cognitive leisure and relaxation activities, eating behavior, exercise, sleep, or smoking). Studies written in English, using qualitative data, including adults, using at least one measure of interoception, and using at least on measure of a lifestyle factor were included. The review included 68 studies, in which 47 measures of interoceptive accuracy and 34 measures of interoceptive attention were identified. Six studies quantified interoceptive awareness (e.g., the interaction between interoceptive accuracy and attention). 12 studies focused on alcohol consumption, 22 studies on cognitive leisure and relaxation activities, 19 studies on eating behavior, 9 studies on exercise, 4 studies on sleep, and 5 studies on smoking. Generally, cognitive leisure and relaxation activities, eating behavior, and fasting showed positive relations with interoception. Conflicting evidence on the relation between exercise and some interoceptive domains, and moderate evidence on the positive relation with other interoceptive domains was found. Greater sleep difficulties were related to enhanced interoception scores and alcohol consumption was negatively related with interoception, while results on the relation between interoception and smoking behavior showed varying results.

Key messages:

- Some lifestyle factors positively influence interoception and vice versa, while for other factors the results are varying or conflicting.
- The role of interoceptive skills in lifestyle factors is important for lifestyle and health management.

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Active offer of influenza vaccination during hospitalization: a multicenter study in Sicily (Italy)

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Background: Every cold season, the Italian health institutions strongly recommend influenza vaccination for categories at risk of complications, however influenza vaccination coverage is over and over far from the desirable target of 95%. After the pilot experience conducted in Palermo during the 2022-23 influenza season, the 'Vaccinations in the ward' project was extended to other Sicilian centers in order to evaluate the impact of the vaccination offer strategy in a broader territorial reality and to analyze the determinants of influenza vaccine acceptance among at risk people.

Methods: The project was conducted at the Umberto I Hospital in Enna and the University Hospitals of Messina and Palermo during the 2023-24 influenza season. A questionnaire was administered to the at risk hospitalized patients to investigate socio-demographic factors, behavioral habits, and clinical condition. Furthermore, influenza vaccination upon discharge was offered. Multivariable logistic regression was performed to identify the determinants of influenza vaccine acceptance.

Results: Overall, 374 patients with a median age of 65 years (IQR: 50-70) were recruited, of whom 36% had been vaccinated for influenza during the 2022-23 season ($n = 136$). The patients who accepted influenza vaccination in the ward were 57% ($n = 214$). The determinants of vaccination adherence were: age (OR: 1.03; $p = 0.003$); having quit smoking (OR: 2.68; $p = 0.017$); having received advice on vaccination from general practitioner (OR: 4.9; $p < 0.001$) and hospital healthcare workers (OR: 7.3; $p < 0.001$).

Conclusions: The offer of vaccination in the ward effectively increased influenza coverage among categories at risk of complications. Furthermore, the adoption of correct behavioral habits and the promotion of influenza vaccination by healthcare personnel have played a decisive role in the vaccine acceptance process. These findings could be useful for planning future influenza vaccination campaigns targeted to at risk people.

Key messages:

- Vaccination strategies are needed to increase influenza coverage among at-risk categories. Active offer of influenza vaccine upon discharge can effectively increase vaccination compliance.
- The adoption of correct behavioral habits and the promotion of vaccination by healthcare personnel play a decisive role in the influenza vaccine acceptance process among at risk people.

Abstract citation ID: ckae144.592

Multiple behavioural risk factors and mental health complaints among adults in Estonia

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Background: Behavioural risk factors are inter-related and often coincide, resulting in potentially worse mental health outcomes. This study explores the association between multiple behavioural risk factors and mental health among adults in Estonia.

Methods: We used nationally representative survey data from 2020 ($n = 6404$) to study the co-occurrence of lifestyle risk factors (smoking, alcohol consumption, physical inactivity, unhealthy diet, drug use, and high screen time) in relation to mental health indicators. Latent class analysis (LCA) was used to identify lifestyle risk profiles, while regression analysis was used to examine associations.

Results: Mental health outcomes were more frequent among females and younger respondents, but 54.4% of respondents reported having at least one mental health problem. Using LCA, three lifestyle classes were identified: multiple risk factors (17.9% of respondents), healthy lifestyle (76.1%), and drug use lifestyle (5.9%). Compared to individuals in healthy lifestyle class, respondents in multiple risk factors had higher odds for experiencing depressiveness (OR 1.46; CI 1.24-1.72), stress (OR 1.26; CI 1.06-1.49), and suicidal thoughts (OR 1.50; CI 1.26-1.80), as well as self-reported diagnoses of depression and insomnia, and using medications, such as antidepressants, hypnotics and sedatives. Respondents in drug use lifestyle had 1.5-2.5 times higher odds for all mental health items compared to healthy lifestyle class with largest difference found for suicidal thoughts (OR 2.46; CI 1.92-3.16) and medication use (OR 2.58; CI 1.91-3.47).

Conclusions: The current data highlights the importance of preventive measures targeting multiple behavioural risk factors, given that these factors often coincide. Moreover, the study showed a high proportion of individuals with at least one mental health problem, highlighting the necessity to continue efforts in preventive and interventive methods.

Key messages:

- The study highlights the significant association between multiple behavioural risk factors and mental health outcomes.
- The study also emphasizes the importance of focused interventions targeting multiple behavioural risk factors to address the increased risk of mental health problems.

Abstract citation ID: ckae144.593

Forecasting cognitive functioning: an artificial intelligence approach with Dynamic Bayesian Networks

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Background: Several potentially modifiable risk factors are associated with subjective cognitive decline (SCD). However, developmental patterns of these risk factors have not been used before to forecast later SCD. Practical tools for the prevention of cognitive decline are needed. We examined multifactorial trajectories of risk factors, and their associations with SCD using an artificial intelligence approach to build a score that forecasts later SCD.

Methods: Five repeated surveys (2000-2022) of the Helsinki Health Study ($n = 8960$, 79% women, aged 40-60 at Phase 1) were used to build dynamic Bayesian networks (DBN) for estimating the odds of SCD. A score-based approach was implemented for learning DBN using the quotient normalized maximum likelihood criterion. The model was used to predict SCD based on the history of consumption of fruit and vegetables, smoking, alcohol consumption, leisure-time physical activity, body mass index, and insomnia symptoms, adjusting for sociodemographic covariates.

Results: Of the participants, 31-48% reported decline in memory, learning, and concentration in 2022. Physical activity was the strongest predictor of SCD in a 5-year interval, with an odds ratio of 0.76 (95% Bayesian credible interval 0.59-0.99) for physically active compared to inactive participants. Alcohol consumption showed a U-shaped relationship with SCD. Other risk factors had minor effects.

Conclusions: A new online risk score tool was developed that enables individuals to inspect their own risk profiles, as well as explore potential targets for interventions and their estimated contributions to later SCD. Dynamic decision heatmap was presented as a communication tool to be used at healthcare consultations.

Key messages:

- Potentially modifiable health-related behaviours such as physical activity can contribute to subjective cognitive decline.
- Artificial intelligence can be applied to discover the complex interactions between risk factors and subjective cognitive decline, to support preventive healthcare at individual and population levels.

Abstract citation ID: ckae144.594

Predictors and outcomes of adolescent alcohol and drug use: a scoping review

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Background: Adolescence is a pivotal life stage marked by educational advancement, entry into the workforce and formation of lasting relationships. Globally, adolescence is also the peak period during which individuals first engage in alcohol and/or drug consumption. This scoping review aimed to summarize existing longitudinal research on factors and outcomes related to adolescent substance use to identify gaps in existing evidence.

Methods: A scoping review was conducted in accordance with the PRISMA extension for scoping reviews. A systematic literature search was conducted on PubMed. Additional studies were identified through hand-searching key reference lists and Google Scholar searches. A narrative synthesis was completed.

Results: 123 studies were included; 12 reviews and 111 cohort studies. 60% of cohort studies originated from North America, 29% Europe, 7% Australia/New Zealand, 2% South America and 2% Asia. Factors consistently associated with increased risk of ASU include male sex, increasing age, externalizing disorders, adverse childhood experiences and peer or parental substance use. Few studies considered wider community or neighbourhood factors. Early initiation and higher frequency of adolescent drug use were predictive of later-life substance use patterns, education derailment, contact with the justice system and mental health disorders.

Conclusions: The body of longitudinal evidence on adolescent substance use is rapidly expanding yet significant research gaps exist. Rising levels of cocaine use and its substantial health impacts motivate further research on all potentially important factors associated with cocaine use to guide interventions for prevention and treatment.

Key messages:

- There are important gaps in existing research on adolescent substance use.
- These include neighbourhood influences and factors associated with initiation of illicit drugs other than cannabis.

9.L. Round table: “What” and “How” for building competencies for effective policy making in and for public health

Abstract citation ID: ckae144.595

Organised by: WHO/Europe, University of Bremen (Germany)
Chair persons: Emilia Aragon De Leon (WHO/Europe)
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Policymakers operating within the field of public health must regularly draw on their skills or competencies to facilitate engagement in and between policy sectors and with the public, to navigate the larger landscape of public health institutions and governance levels across the policy cycle, to generate, understand, and apply evidence for decision making, as well as to negotiate the demands of diverse stakeholders. What exactly are the competencies needed and how can they be cultivated to enhance the collective capacity of policymaking institutions? The increasing strain placed on public health systems worldwide, owing specially to challenges in population ageing, the burden of non-communicable diseases, and the exigencies introduced by pandemics, environmental disasters, and geo-political instabilities push us to expand the scope of public health. A look to the policy environs and outcomes seen within and across countries demonstrates that the quality of policy is both highly variable and exceedingly subject to the quality of public health leadership itself. These developments shed light on the need for greater investment in the development of competencies needed by policymakers to engage in effective decision making on key issues impacting population health and the resilience of public health systems. This includes efforts to strengthen the abilities of policymakers to identify problems, recognize opportunities, and put forth solutions in line with robust data and evidence, principles of public health ethics, gaps and priorities in public health needs, and in accordance with financial and political realities. The proposed roundtable will examine the state-of-the-art on policymaking competencies in public health, and how to build them by examining the barriers and opportunities. The panel will convene leading experts in the field of public health research and practice to explore:

1) the conceptual definition of competencies for policymaking at different levels of governance and across the policy cycle;
2) the strengths and limits of competency frameworks and their utility in guiding assessment and training tools, as well as policy practice;
3) the challenges associated with developing, maintaining and transferring competencies in fast-changing, multi-level policy making environments;
4) the challenges for public health experts and institutions to be trusted advisors both by policy makers and other stakeholders and the population; and
5) the opportunities to harness the unexploited power of professional networks in some countries of Europe.

Key messages:

- An enhanced research agenda and investment are needed for the development of competencies - individual and collective - for effective public health policy-making and stronger governance.
- Innovative approaches to policy-making are needed, and this requires building competencies, including leadership, for addressing the complex nature of public health.

Abstract citation ID: ckae144.596
Exploring the state-of-the-art on competencies for policymaking in public health

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Against the complex backdrop characterizing both the nature of public health challenges and the corresponding skills required to face them, this presentation will introduce the state-of-the-art on scholarship concerned with the definition and/or development of competencies for effective policy making in public health. The presentation will focus especially on presenting findings of a scoping review of the state-of the-art involving: 1) research that develops competency frameworks explicitly designed for policymakers operating in public health; and 2) case studies that explore the application of specific competencies (whether explicitly or implicitly) in different public health contexts. By exploring both bodies of literature, the scoping review will take stock of how each study defines the concept of competencies, enumerates areas of knowledge and demonstrable skills pertaining thereto, and uses evidence to establish their significance in the field of public health leadership. The findings of the scoping review will also be brought into comparative perspective, examining whether and how the categories of existing competency frameworks correspond with one another, as well as reflect the insights of single case studies. The proposed presentation will conclude with an overview of findings of a mapping exercise including all competencies identified in the literature, which can serve the workshop audience as both a synthesis and holistic refinement on the state-of-the-art going forward. The proposed presentation will conclude with an overview of findings of a mapping exercise including all competencies identified in the literature, which can serve the workshop audience as both a synthesis and holistic refinement on the state-of-the-art going forward.

Speakers/Panelists:
Anne-Catherine Viso
Santé publique France, Saint Maurice, France
Charlotte Marchandise
EUPHA
Kasia Czabanowska
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9.M. Oral presentations: Understanding mental health

Abstract citation ID: ckae144.597
Improving physical healthcare for people experiencing mental illness: The COMITMENT project

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Background: People experiencing mental illness (PMI) face significant challenges in accessing and using somatic healthcare services, reducing their overall life expectancy by up to 20 years. The COMITMENT project aimed to identify barriers and facilitators in accessing and using somatic healthcare services for PMI and co-design strategies that could address existing challenges.

Methods: This study employed a qualitative participatory approach, involving a "trialogic" steering group composed of a person with lived experience of mental illness, a family member and caregiver of PMI, as well as a health professional. Two co-design workshops were conducted with members of each trialogic group, based on "World Café" methodology, facilitating open discussion between and among the three perspectives. Data was gathered through participant observations and systematically collecting participants' workshop contributions, and analyzed thematically.

Results: Overall, 52 people participated in the two workshops. Findings identified six overarching themes regarding challenges in somatic healthcare access/use for PMI: (1) accessibility and facility design, (2) support and bureaucracy, (3) awareness among healthcare professionals, (4) societal awareness, (5) structural diversity of services, and (6) lack of networking abilities. Notable insights include inclusivity design requirements for healthcare facilities and the importance of integrating lived experiences of PMI into the training of healthcare professionals to reduce stigma.

Conclusions: This study underscores the critical need for systemic changes to improve somatic care for PMI. It suggests that greater awareness among healthcare professionals, coupled with more inclusive service design and enhanced networking abilities, could substantially improve the quality of healthcare for PMI. The COMITMENT project provides robust and co-designed results for social, systemic, and political reforms aimed at reducing healthcare inequity.

Key messages:
- This study shows how direct involvement of relevant stakeholders improves the design of interventions that truly meet the needs of people with mental illness regarding somatic healthcare services.
- To improve healthcare access and treatment for people experiencing mental illness, systemic social, design, educational, and political changes and adaptations are required.

Abstract citation ID: ckae144.598
Learnings from 'Everyone In' initiative in England for improving health of people facing homelessness

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Issue: The COVID-19 pandemic presented an unprecedented health risk to people experiencing homelessness including risk of infection due to inability to self-isolate, and pandemic restrictions adding barriers to accessing health support. The English Government implemented the 'Everyone In' policy at the start of the COVID-

19 pandemic, which offered accommodation to those who were (or at risk of) sleeping rough. This led to integration of support for health, care and housing.

Description of the problem: Between January-October 2023, a qualitative study was undertaken to understand what worked well and less well in implementing the 'Everyone In' initiative for improving physical and mental health outcomes for people experiencing homelessness. People who were provided accommodation and those involved in the planning or delivery of the initiative were interviewed.

Results: Flexibility in provision of funding and support, lack of red tape and joined-up working between partners across sectors were key positives of implementing the policy. 'Everyone In' also led to new ways of supporting and overcoming barriers to support, for example, provision for people with no recourse to public funds. Access to health services for people experiencing homelessness was improved by strengthened relationships with service providers, and outreach within the accommodation for wrap-around support. Challenges were faced in support for substance use. Data sharing practices, mental health support, and recognition of trauma were areas that could have worked better.

Lessons: Availability of flexible and earmarked funding is crucial in implementing strategies for improving outcomes in homelessness. Many short and long-term initiatives have been launched as a result of 'Everyone In'. This study highlights the importance of partnership working, supported housing and maintaining flexible, responsive approaches to interventions to meet the health and social care needs of people experiencing homelessness.

Key messages:

- Multi-sectoral partnerships and integrating housing with health and care support can improve access to services.
- Availability of flexible funding for homelessness strategies supports adaptable and responsive service provision.

Abstract citation ID: ckae144.599
Evaluation of a public health workplace staff psychosocial risk assessment and wellbeing initiative

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Adverse psychosocial work environments can have a detrimental effect on staff wellbeing causing chronic stress leading to burnout. Despite legislation mandating regular risk assessments, only one third of workplaces assess psychosocial risks. A 2020 European report identified one of the main barriers being a reluctance to talk openly about psychosocial issues. This paper describes an evaluation of a staff psychosocial risk assessment and wellbeing initiative in a Public Health Department in Ireland. The initiative commenced in October 2022 during a period of major health service organisational change. Informed by positive organisational psychology conceptual frameworks, guided by the European Psychosocial risk assessment framework (PRIMA-EF) and utilising the HSE Work Positive (CI) survey tool it was possible to constructively identify and categorise psychosocial risks across the Public Health team. In the evaluation, a mixed methods approach was used based on Donabedian's structures, processes and outcomes overarching framework and Nielsen's Model of Process Evaluation Framework. The first three iterative quality improvement cycles of the intervention were reviewed. The evaluation demonstrated that all of Nielson's three indicators for a successful organisational level staff wellbeing intervention had been met: there was evidence of improvement in both working conditions and staff wellbeing; iterative quality improvement cycles including appreciative inquiry staff collaborative engagement ensured staff views and key learning was captured; new organisational structures within the Department enabled the sustainability of this process. The evaluation indicates that the staff psychosocial risk assessment process is beneficial for staff wellbeing and that the methods used are appropriate. The resources used in this process continue to be readily available within the health service organisation. The evaluation supports continuation of this process in its present form.

Key messages:

- This evaluation supports staff psychosocial risk assessment and mitigation processes and provides a framework for healthcare managers to implement such processes and comply with legislation.
- This evaluation indicates that effective and sustainable collaborative staff engagement can be achieved using a positive focus which builds on team strengths and harnesses collective wisdom.

Abstract citation ID: ckae144.600
Temporal trends 1990-2020 in youth suicide: a global analysis based on the WHO Mortality Database

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Suicide is a serious but preventable public health issue globally, with substantial geographical disparities. Although mortality from suicide is higher in older age groups, it ranks as the fourth leading cause of death among youth. This study analysed global suicide trends for the age group 10-24, from 1990 to 2020. Using data on certified deaths from suicide (codes ICD-9: E950-959; ICD-10: X60-X84, Y87.0) and population from the WHO mortality database for 52 countries with valid data, age-standardised suicide rates (ASR) were computed (by sex, country, and calendar year) and joinpoint regression analyses were carried out to identify significant changes in trends. High variability in suicide rates and trends was observed, with male-to-female ratios ranging from two to five. From 1990 to 2020, most European countries reported declining suicide trends, with some exceptions. Particularly concerning trends emerged in the United Kingdom, with increases of 2.5% per year among males since 2005 and 8.5% among females since 2012. Southern Europe exhibited the most favourable trends and lowest suicide rates, with 3.1/100,000 males in Italy (2020) and 3.5/100,000 males in Spain (2021), and 0.9/100,000 females in Italy (2020) and 1.1/100,000 females in Romania (2019) among females. Conversely, Central-Eastern Europe showed the highest rates, with 10.2/100,000 males in the Russian Federation (2019) and 10.0/100,000 males in Poland (2002). Non-European areas reported higher suicide rates and significant increases. The highest ASR was 15.5/100,000 males in the United States of America, with an increase of 3.8% per year among males from 2009 to 2020 and 6.7% among females from 2007 to 2017, followed by a levelling off. Youth suicide rates and trends vary widely globally. Interpretation of temporal and geographical comparisons in suicide mortality should be approached cautiously due to potential misclassification or under-reporting of suicide deaths in some countries.

Key messages:
- Albeit data on suicide mortality should be interpreted with caution, the study reveals high variability in suicide rates and trends among youths aged 10-24 across different countries worldwide.
- Timely and accurate monitoring of epidemiological trends should support the planning, implementation, and evaluation of setting-specific health promotion strategies in mental health.

9.N. Practice session: From Data to Action – Joining forces to close the inequity gap in adolescent health

Abstract citation ID: ckae144.601

Organised by: EUPHA-CAPH
Chair persons: Heiko Schmengler (Netherlands), Julia Dratva (EUPHA-CAPH)
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Persistent adolescent health inequalities exist in Europe, necessitating interventions that address both individual and societal factors, especially those pertinent to youths in unfavourable contexts. Collaborative efforts involving cross-sectoral partnerships and adolescent engagement are crucial in identifying and mitigating these disparities. Three case studies exemplify this approach.

Case study 1: Effective intervention development hinges upon the translation of epidemiological insights into tangible actions. Heiko Schmengler will discuss how individual and contextual-level data is made actionable for the development of ePro-schools, an e-health intervention to promote healthy dietary habits and physical activity amongst adolescents in socially disadvantaged settings. ePro-schools brings together stakeholders from academia, the health sector, the education system, and local communities. This collaborative approach ensures that the intervention is not only grounded in solid scientific evidence but also fits the specific cultural, social, and economic contexts of the adolescents it aims to serve.

Case study 2: Adolescents are not passive consumers of interventions, but active agents who frequently understand best what they need to improve regarding their health. Lourdes Cantarero Arevalo will share innovative methodologies and best practices for involving adolescents in data collection, intervention design, and policy development processes with the final aim to empower the voices of adolescents in vulnerable situations while addressing problems that are relevant for them.

Case study 3: Filipa Alves da Costa will draw attention to the health concerns of adolescents resulting from incarceration. This talk will outline the development of a policy brief derived from UN global study data, which highlights the importance of cross-sectoral collaboration in developing actions to safeguard access to high quality healthcare for adolescents within the criminal justice system. A cross-sectoral approach is critical given that criminal justice systems typically fall outside the direct oversight of health ministries. The goal is to encourage policymakers, practitioners, and advocates to consider inter-sectoral strategies to address the complex health challenges these adolescents face.

Following the presentations, we will facilitate a dynamic discussion with the audience, encouraging an exchange of ideas on strategies to address adolescent health inequalities from a multilevel perspective. This discussion aims to draw on the collective expertise of participants from diverse backgrounds, including practitioners, researchers, and policymakers. This dialogue aims to identify common barriers and opportunities, fostering a collaborative approach to tackling inequalities. The goal is to emerge from the workshop with a richer understanding of effective strategies that can be leveraged to close the gap in adolescent health across Europe.

Key messages:
- Health inequalities among adolescents must be tackled collaboratively across different sectors and with participation of adolescents.
- Participants will gain valuable insights on innovative solutions and effective methodologies from the case studies to inform their own efforts in addressing adolescent health inequalities.

Abstract citation ID: ckae144.602
Leveraging epidemiological data for the development of interventions to promote healthy nutrition and physical activity among adolescents from disadvantaged backgrounds

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ePro-Schools is a public health initiative designed to promote healthy nutrition and physical activity among adolescents from socially disadvantaged backgrounds using a targeted e-health intervention to be deployed in the school context. A central theme of ePro-Schools is its robust cross-sectoral collaboration, involving stakeholders from academia, healthcare, education, and local communities. This cooperative approach not only enhances the intervention's relevance and efficacy but also ensures its cultural, social, and economic adaptability to the needs of the target population. The project embodies a truly interdisciplinary effort, integrating insights from epidemiology, behavioural science, public health, and digital technology to innovate and improve health promotion strategies. This presentation will explore how data from epidemiological studies, such as the Health Behaviour in School-aged Children (HBSC) study, are used to support the development of the ePro-Schools intervention. Utilizing high-quality epidemiological data, the project identifies key determinants of physical activity, dietary habits, and sedentary behaviour amongst adolescents growing up in low-SES contexts, allowing to craft tailored strategies to promote healthier lifestyles within this vulnerable population.

Abstract citation ID: ckae144.603
Empowering youths through citizen science to address health inequalities in adolescence

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Citizen Science (CS) stands as a beacon of hope in the fight against inequalities in adolescent health, revolutionizing scientific research by involving individuals from diverse backgrounds. Unlike traditional methods, CS transcends academic boundaries, fostering inclusivity and collaboration irrespective of age, nationality, or social status. This approach has gained momentum in adolescent health research, empowering young people as co-researchers from project inception, thereby reducing disparities in health knowledge and access. Studies demonstrate its efficacy in enhancing empowerment and health literacy among participants. YouthChronic is an example of how CS can mitigate health inequalities among adolescents. The project ensures active participation in every research stage by engaging adolescents with chronic conditions as citizen scientists. Open-ended questions facilitate detailed responses, while participation in analysis and dissemination enhances their research involvement and sense of ownership. Through initiatives like YouthChronic, CS is reshaping the research landscape, making it more relevant and impactful to bridge the inequality gap. Young Citizen Scientists' views on their participation: "As part of YouthChronic, we felt like our experiences with chronic conditions were finally being heard. The researchers were cool-they listened to us, let us be flexible with our participation, and even taught us some research skills. Learning from other peers' experiences made us feel less alone and gave us new insights. But it's frustrating that we're limited by resources. We have big ideas, like running an advocacy campaign, but we need funding to make them happen". In conclusion, by actively involving adolescents in the scientific process through CS initiatives like YouthChronic, we can reduce inequalities in adolescent health, empower marginalized voices, and pave the way for a brighter, more inclusive future in scientific exploration and discovery.

Abstract citation ID: ckae144.604

Ensuring the right to health care for detained adolescents: cross-sectoral strategies and policy innovations

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This presentation will draw attention to the health concerns of adolescents deprived of liberty, stressing that incarceration of minors should be a last resort. Notwithstanding, when governments allow for incarceration of minors, they must guarantee this does not translate into deprivation of basic human rights and that international treaties are respected, including access to high quality healthcare. This talk outlines the development of a policy brief based on data from the UN global study, which identifies essential health interventions for minors in various forms of detention-migration, youth detention, and adult detention where children reside with their parents. Using case studies from Greece, India, and the United States, shortcomings in existing health systems in detention contexts are stressed. A more recent policy brief focusing exclusively on children detained in the context of migration will be used to provide good practice case studies, where appropriate actions such as changes in legislation were put in place, namely in Canada, South Africa, Ukraine and Ireland. A key focus of the presentation will be the importance of cross-ministerial collaboration, as healthcare in the criminal justice system frequently falls under the jurisdiction of ministries other than health, complicating health policy implementation. The speaker will discuss integrated approaches that involve various sectors to ensure the health rights of detained youth are addressed. The presentation aims to illuminate the systemic changes needed to protect the health of detained adolescents, urging policymakers, healthcare providers, and advocates to adopt holistic and inter-sectoral strategies. The talk will also refer to policy actions and recommendations for Member States to support them in addressing challenges so they may achieve the principles of equivalent care and continuity of care that reflects the recommendations of the United Nations Global Study on Children Deprived of Liberty.

9.O. Pitch presentations: Sexual and gender minority health

Abstract citation ID: ckae144.605

Social influence on post-drinking risky sexual behaviours: evidence in France and South Korea

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Background: Post-drinking risky sexual behaviours are at the conjunction of the dual risks of sexually transmitted infections and further problematic substance use, necessitating contextual analysis for determinants that promote these behaviours. This study examines the influence of social groups on post-drinking risky sexual behaviours in different cultural samples.

Methods: A cross-sectional survey was conducted among young adults aged 18-30 in France and in South Korea in 2023-2024 ($n = 998$). A construct of post-drinking risky sexual behaviours includes 3 types: having sex without condoms, having sex with occasional partners, and having transactional sex. Perceived drinking norms were measured as a proportion. Multivariate logistic regression was conducted after controlling for sociodemographic factors.

Results: Young adults who reported that their social group had a higher proportion of drinkers were more likely to engage in a wider range of post-drinking risky sexual behaviours (aOR=1.02 [95%CI 1.01-1.03] in France; 1.01 [1.01-1.03] in Korea). Young adults in social groups who had experienced two types of risky sexual behaviours were more likely to engage in risky sexual behaviours after drinking (5.13 [2.21-14.1] in France; 10.65 [5.86-19.8] in Korea), compared to young adults in social groups with no experience. Young adults in social groups who had experienced all three types of risky sexual behaviours had a 10 times higher likelihood of engaging in post-drinking risky sexual behaviours in the French sample (10.12 [3.69-31.4]) and a 16 times higher likelihood in the Korean sample (16.0 [7.31-35.8]).

Conclusions: Alcohol-related risky sexual behaviours among young adults were found to be significantly associated with their social group's drinking and risky sexual behaviours, across different cultural settings. More attention should be paid to direct/indirect influence of social groups on health risk behaviours.

Key messages:
- The influence of social groups on alcohol-related risky sexual behaviours is significant regardless of cultural setting.
- Peer and social norms-based health promotion is recommended to prevent IST and HIV/AIDS.

Abstract citation ID: ckae144.606
Teachers perspectives on positive and inclusive sex education in Dutch secondary schools

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Sex education in schools can play an important role in improving young people's sexual health. Dutch youth are often dissatisfied with the sex education they receive at school; they want more attention to discussing pleasure, consent and diversity. While there have been various calls for positive and inclusive sex education over the past decade, still very few schools provide it. This study examined teachers' perspectives on positive and inclusive sex education and documents the barriers teachers are confronted with in providing this type of sex education. Based on an online questionnaire survey of 508 sex education teachers, we examined the extent to which teachers possess the knowledge, attitudes and skills that facilitate the delivery of positive and inclusive sex education. We also held focus groups with 25 teachers from 10 schools and explored what they consider to be key barriers and best practices in teaching positive and inclusive sex education. Teachers overall have the knowledge, attitudes and skills that are needed to provide positive and inclusive sex education, but there is room for improvement, for example regarding knowledge on intersex individuals and the clitoris. Teachers experienced barriers at three levels: the personal level (e.g. personal discomfort), the classroom level (e.g., safety in the classroom) and the structural level (e.g. sex education not being part of the national curriculum; lack of time). Structural barriers seem to be at the basis of the barriers at the personal and classroom level. It is advised that positive and inclusive sex education gets a permanent place in the national curriculum. By developing concrete core objectives in the area of relationships, sexuality and diversity, for all grades, and by providing more extensive teacher training, teachers and schools will be facilitated to organize sex education in a more sustainable way.

Key messages:

- Sex education teachers in the Netherlands desire better training to provide positive and inclusive sex education in the classroom.
- Integrating sex education in the national curriculum would help teachers to address sexuality in a more sustainable way in the classroom.

Abstract citation ID: ckae144.607
Closing the Gap: Implementing Gender-Sensitive Care to Address Healthcare Disparities

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Background: Women still face a higher mortality rate after a heart attack compared to men, and the reasons remain unknown. The project HeartGap aims to investigate the disparity between evidence-based guidelines and the integration of Gender-Sensitive Care (GSC+) in clinical settings. By exploring healthcare providers' attitudes and knowledge on GSC+, the project seeks to develop holistic recommendations for its effective implementation.

Methods: The project HeartGap employs a mixed-methods approach, including a scoping review, qualitative focus group interviews, and quantitative surveys. The focus of this abstract will be on the qualitative survey. From June 13, 2023, to April 26, 2024, a total of 18 focus group interviews were conducted in 9 hospitals of varying sizes and levels of care in Germany. These interviews involved separate groups of 3-8 nurses or physicians to explore attitudes, knowledge including the european guidelines for cardiology and current implementation of GSC+ into clinical practice. Facilitating factors and barriers were also discussed and in which fields measures should be applied. The results were evaluated using a qualitative content analysis.

Results: The interviews revealed discrepancies in healthcare providers' awareness of GSC+ and identified both facilitating and hindering factors in its implementation. Facilitating factors included increased awareness, more evidence by considering gsc+ in research, university and professional education, support from hospital leadership and politics. Barriers included a lack of time and knowledge, other priorities and vague content on GSC+ in medical and nursing guidelines.

Conclusions: Gender-sensitive care is crucial for personalized healthcare, yet its implementation remains inconsistent in clinical practice. Targeted strategies are necessary to enhance awareness, knowledge, and guidelines and policy support for GSC+. The Identified recommendations for action are transferable throughout Europe.

Key messages:

- Gender-sensitive care is pivotal for addressing healthcare disparities but faces implementation challenges.
- Comprehensive strategies, including awareness, teaching and policy support, are indispensable for integrating gender-sensitive care into clinical practice.

Abstract citation ID: ckae144.608
Perceptions of MSM on targeted sexual healthcare about HPV vaccination: a French qualitative study

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Background: To improve the effectiveness of public health policies, HPV vaccination campaigns target "high-risk groups", such as men who have sex with men (MSM). In France, HPV vaccination is recommended for MSM up to the age of 26, rather than 19 for the general population. It's crucial to assess the impact of such targeting policies on MSM who are eligible for HPV vaccination.

Methods: A qualitative study was conducted between April and July 2022 among MSM participating in the "Vaccigay" electronic survey in France (Brosset et al. 2023). Participants were selected based on age and declared HPV vaccination status. Semi-structured interviews were conducted by telephone using a thematic grid on the barriers and facilitators influencing the uptake of the vaccine against HPV. The interviews lasted on average 40 minutes. The audio-recorded verbatims were transcribed and thematically analysed using NVivo software.

Results: A total of 22 viewpoints were analysed. Two opinions emerged without differences in terms of individuals' profile. The reasons MSM advocated for targeted sexual healthcare stemmed from the recognition of epidemiological factors, as well as the need for greater listening and understanding from healthcare workers. MSM who didn't support targeted sexual healthcare did so because they felt stigmatised and because sexual orientation might not always be clear. Among them, some advocated for sexual healthcare based on sexual practices rather than sexual orientation. Others emphasized the necessity of extending prevention tools for sexual risks existing for MSM to the general population.

Conclusions: The findings of this study prompt reflection on universal versus targeted public health policies, as well as sexual and gender discrimination within the healthcare system. We recommend improving healthcare workers' education on sexual healthcare, and that HPV vaccination guidelines could be extended to all adults up to 26, regardless of their sexual orientation.

Key messages:

- Improving knowledge among healthcare workers and MSM about HPV and sexual health is important.
- It is important to extend the age for the HPV vaccination, regardless of sexual orientation.

Abstract citation ID: ckae144.609
Systematic review of ethical/methodological issues in transgender youth participative research

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Background: Understanding the experiences of transgender and gender-diverse (TGD) youth is essential for developing appropriate support services. However, studies focusing on TGD youth under 18 outside clinical settings are scarce, limiting effective support development. The requirement for parental consent in participatory research poses ethical and logistical challenges, impacting the safety, well-being, and privacy of adolescent participants. This dynamic complicates the balance between adolescents' rights to autonomy and privacy and parental duties to protect their children. This review aims to illuminate the ethical and methodological challenges in participatory research with TGD youth.

Methods: A systematic review of bibliometric databases from 2006 to 2022 was conducted, focusing on transgender and gender nonconforming identities, adolescence, qualitative and participatory research methods, and consent issues. This review was registered with PROSPERO in November 2022 (CRD42022368360).

Results: Of 3,794 articles initially identified, 291 met the inclusion criteria, and 48 were extensively reviewed. Research with TGD youth commonly faces ethical tensions including parental inclusion in the consent process, safeguarding participant safety and privacy, ensuring confidentiality, and creating environments that allow TGD youth to express themselves and feel empowered. Methodological challenges include engaging public and stakeholders, recruiting participants, data collection, and maintaining research integrity.

Conclusion & Implications: The literature on participatory research with young transgender and gender-diverse individuals reveals intricate and often conflicting issues related to consent procedures, power dynamics, and the researcher's role. These findings are applicable in various legal and geographical contexts, providing insights that can guide practices globally.

Key messages:

- Research reveals ethical dilemmas in participatory research with transgender young people, highlighting difficulties around consent and the need for tailored support.
- Understanding the complexities of research ethics enables better support for transgender and gender-diverse young people during research.

Abstract citation ID: ckae144.610
Drug-facilitated sexual assault: An observational retrospective study in Barcelona (2018-2022)

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Background: Barcelona handles 400 to 500 sexual assaults yearly. Substance use is expected in one-third of reported assaults, being alcohol and cocaine the most detected substances. Nevertheless, there is a lack of updated information with reliable, recent, and context-specific data.

Methods: Retrospective observational study in people attended at the reference hospital for sexual assault care in Barcelona (H.Clinic) within 24 hours of the drug facilitated sexual assault (DFSA) in the period 2018-2022. Univariate and bivariate analysis have been carried out to describe the characteristics of the victims and identify possible associations with the assault settings, relationship with the aggressor and substances involved.

Results: Among 682 cases of DFSA, women represent 85%. Most incidents (73%) occur in the 18 to 35 age group, primarily in homes (42%), public spaces (23%), and nightlife establishments (15%). Spanish nationality is most common in both sexes (50%), yet Latin American men are prominent in drug-involved cases compared to non-Spanish European men. While alcohol (55%) and cocaine (28%) remain common, emerging drugs like GHB (15%) and MDMA (23%) are rising. The aggressor varies depending on the age and sex of the victim, with the perpetrator often being known (46%) in cases involving minor victims, while it tends to be unknown (46%) in cases involving adult victims. Chemical submission-related cases increased steadily, reaching 17% in 2022. Among these victims, 75% were women, with MDMA and cocaine being prevalent, while methamphetamine and GHB were more common among men. All these findings are statistically significant.

Conclusions: The study highlights a significant number of drug-facilitated sexual assaults mostly among young women, often occurring domestically, alongside emerging substance use trends. Adaptable surveillance systems are crucial to address these dynamic patterns and support vulnerable populations for safer environments.

Key messages:

- Drug facilitated sexual assaults are a global health issue that demands attention through a gender perspective. Substances, spaces and consumption patterns evolve over time and across generations.
- Patterns in substance use vary by age, nationality, sex, and consumption type, highlighting vulnerable population groups needing focused protection and assault prevention.

Abstract citation ID: ckae144.611
Quitting with pride: Differences in smoking behaviour across sexual identity groups in Ireland

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Background: As smoking prevalence reduces, smoking inequalities across population groups is emerging as a key challenge. Despite recognition of specific needs among members of the Lesbian, Gay, Bisexual, Transexual Plus (LGBT+) community, differences in smoking across sexual identity groups is uncharted in Ireland and the community is not represented in tobacco policy agenda setting. This study aimed to measure and compare the prevalence of smoking, quitting intention and quitting behaviour across sexual identify groups in Ireland.

Methods: Secondary analysis of the 2023 “Healthy Ireland” cross sectional survey of health status was conducted (n = 7,411). For the first time, this survey included a question on self-reported sexual identify, along with standard questions on smoking prevalence, quitting intention and quitting behaviour. Prevalence of smoking, quitting intention and quitting behaviour were calculated with 95% Confidence Intervals (CI) and compared across groups with Chi Square tests.

Results: In total, 2.3% (95% CI 2.0-2.7%) of respondents reported an LGB+ identity. Compared to those reporting straight identity, LGB+ respondents reported higher smoking prevalence (17.6% versus 21.4% respectively); intention to quit was similar across groups, however, LBG+ respondents also reported a higher prevalence of making at least one quit attempt in the previous 12 months (51.3% versus 78.0% respectively, $p < 0.0001$).

Conclusions: While this study highlighted tobacco-use as a health challenge for the LGB+ community in Ireland, it also identified an opportunity for tailored stop smoking approaches to support quit success. As a consequence, an innovative Fulbright-sponsored policy dialogue was convened between leaders in tobacco control, LGBT+ community leaders, health services and academia across Ireland and the USA to explore solutions, underlining the important role equity stratifiers and population surveillance play in agenda setting for public health.

Key messages:

- Including sexual identity in the national population health survey enabled tobacco-use needs across sexual identity groups in Ireland delineated for the first time.
- Equity-stratified population health surveillance informed a policy dialogue to better represent needs of LGBT+ community in public health agenda setting.

Abstract citation ID: ckae144.612

HIV risks and transactional sex among Swedish-born MSM and foreign-born MSM in Sweden

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Background: Transactional sex, which includes exchanging sex for material goods, services, or money, is a key HIV risk factor. Risk patterns associated with transactional sex among men who have sex with men (MSM) in Sweden, where buying sexual services is illegal, have not been examined earlier. This study aims to assess whether transactional sex (both buying and selling), country of birth, and migration-related factors (described by country of origin) are associated with self-reported HIV status among MSM in Sweden.

Methods: We analyzed secondary data from the 2017 European MSM Internet Survey (EMIS-2017), including participants reporting to live in Sweden (n = 4443). Using multivariate logistic regression analysis, we aimed to understand factors related to involvement in transactional sex and risk of HIV acquisition.

Results: Among the respondents, 5.4% reported living with HIV, with 8.8% of foreign-born MSM and 4.8% of Swedish-born MSM. The multivariable analysis showed that both selling and buying sex in the past five years increased the odds of reporting a positive HIV serostatus among all participants. Stratifying by transactional sex exposure and country of birth showed an HIV prevalence increase for all groups. Foreign-born selling or buying sex ever in the last five years had the highest prevalence of all groups (ranging from 17.8 to 19.1%). Other factors associated with a positive HIV status were age, outness, sex with a woman in the past twelve months, and condom use.

Conclusions: The relatively high reported HIV prevalence supports the need for HIV prevention, including the scale-up of access to pre-exposure prophylaxis to foreign-born MSM. A transparent discussion about risk factors and socioeconomic structures contributing to risk behaviors, including transactional sex, is needed.

Key messages:

- Engaging in transactional sex increases the HIV risk among MSM in Sweden, particularly among foreign-born MSM.
- HIV prevention needs to address the socioeconomic factors contributing to risky behaviors, such as transactional sex.

9.P. Scientific session: National perspective on knowledge translation to bridge the gap between research and policy

Abstract citation ID: ckae144.613

Organised by: Sciensano (Belgium)
Chair persons: Robby De Pauw (Belgium), Brecht Devleesschauwer (Belgium)
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National and international public health institutions play a crucial role in guiding public health policies. However, a key challenge in this process is to bridge the gap between the data collected and the insights required to guide decision-makers, commonly referred to as knowledge translation (KT). Various models have been proposed to facilitate the KT process in public health, and one of the widely recognized models is the Data-Information-Knowledge-Wisdom (DIKW) model, also known as the knowledge pyramid or information hierarchy. In this workshop, we provide insight into the Belgian perspective on the implementation of the DIKW pyramid, using the Belgian health status website as an example https://www.healthybelgium.be. The workshop will tackle the four distinct layers of KT, including data, information, knowledge, and wisdom. The first one involves the data collection process, and the importance of considering potential biases that may arise during this process. Information revolves around the data analysis and the translation of data into meaningful information. Knowledge builds on data-driven information by contextualizing public health analysis results.

Finally, wisdom reflects the end-result of the DIKW model, highlighting the need to utilize knowledge for action and achieving results based on the analysis performed. The DIKW model provides a valuable platform by delineating the different layers required to move from raw data to knowledge and wisdom. This process is crucial in achieving an impact on public health, where the data analyzed by public health researchers informs the end-users, including policymakers and the public. Nonetheless, the DIKW model and its applicability to knowledge translation are the subjects of many debates. Within this workshop, the national perspective of the national public health institute in Belgium, Sciensano, on each level of the DIKW pyramid will offer participants concrete examples that might spark an initial step towards their nationwide implementation of the DIKW pyramid for KT. The workshop will offer a step-by-step presentation on the different KT layers, whereby the attendees will gain unique insights into the system implemented in Belgium. This presentation will foster a discussion for generating ideas and stimulating other countries to implement the DIKW pyramid.

Key messages:

- The DIKW pyramid offers a valuable framework to guide knowledge translation in public health, which is a key task for public health institutes.
- Attendees will receive an overview and a practical example of how the DIKW-model could be applied in a national context, including a discussion of the strengths and weaknesses of the pyramid.

Abstract citation ID: ckae144.614

The data layer: the importance of sources critical appraisal

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One of the main purposes of public health institute is to tracking the health status of its citizens and understanding its evolution over time. Given the absence of a singular, comprehensive data source, we developed a framework to select databases specific to each disease and outcome of interest. This process includes a thorough evaluation of the operational case definitions, as well as the strengths and weaknesses of each database, with a particular focus on their sensitivity and specificity. These qualities are appraised following a dedicated scoring form into different categories (i.e., high, medium, low). The selection criteria for data sources hinge on several key questions: Is the database exhaustive or merely a sample? Does the case definition rely on direct medical diagnoses or proxies? Does the source capture all cases? Is the data collected at regional or national level? Are there mechanisms for yearly or periodic updates? To establish the most accurate national prevalence estimates for each outcome, we often need to adjust for data misclassification-applying corrections for biases such as self-reported data and interpolating for missing entries. In some instances, a pooled estimate from multiple data sources is developed. A specific case will be presented to illustrate our approach in practice. This critical evaluation is pivotal, as the quality of data underpins the entire health information pyramid. The integrity of our data directly influences our ability to convert data into actionable health wisdom, ultimately affecting public health decision-making and policy formulation.

Abstract citation ID: ckae144.615

The information layer: shaping data into meaning with interactive tools

Masja Schmidt

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Valorization and interpretation of health data are contingent upon a robust analytical framework. This framework encompasses essential processes such as data cleaning, validation, and the critical evaluation of bias and missing data. A nuanced understanding of these factors is crucial for contextualizing data through stratification, developing comprehensive analysis plans, and addressing interactions, covariates, and confounders. Such meticulous methodologies guard against 'data fishing expeditions' that could otherwise lead to erroneous conclusions. Healthybelgium.be exemplifies our approach for deciding on appropriate levels of data aggregation and stratification. This study serves as a foundation for deriving conclusions and formulating hypotheses regarding the health status of the national and various sub-populations. Our discussion will cover the limitations of the questions that can be answered with the available data, the resulting opportunities for data enhancement, and the subsequent valorization of findings for knowledge advancement. Furthermore, we will present the interactive tools (through the use of R Shiny) developed by Sciensano to disseminate information broadly, making it accessible and comprehensible to diverse audiences. These tools embody a balance of strength and limitation, facilitating an informed dialogue among stakeholders. The ongoing refinement of these tools, influenced by continuous learning and insights, exemplifies our commitment to evolving public health intelligence.

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The knowledge layer: the role of key messages for translating data into meaning

Aline Scohy

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The large volume of data generated by health information systems often remains siloed within the institutions that produce it, posing significant challenges to its reuse and interpretation. This fragmentation can result in conflicting information on critical health topics, complicating the decision-making process for policymakers. To address this issue, Belgium has initiated the 'Health Status Report' website, hosted at healthybelgium.be. This website aims to synthesize and present health data in a manner that supports evidence-based policy formulation. The website adopts a structured approach to data integration and interpretation: initially, we identify and prioritize key health topics based on their relevance and the quality of available data. Subsequently, we merge and analyze data from diverse sources to discern patterns and trends that are crucial for public health monitoring. The insights gained are then presented through both narrative texts and interactive visualizations, facilitating access and understanding for a broad audience. Crucial to this process is ongoing communication with experts and stakeholders, ensuring that the data is not only accurately interpreted but also aligns with the needs and expectations of its users. We also aim to translate the raw data into meaningful key messages by consulting with internal and external experts. This interactive platform thus serves as a critical tool for translating complex health data into actionable knowledge, enabling informed public health strategies and interventions.

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The wisdom layer: how to support evidence-informed policymaking

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One of the returning challenges faced by public health scientists is bridging the ‘evidence-policy gap’-the disparity between identifying public health issues and implementing policies to address them. Despite the extensive literature documenting the challenges of promoting evidence-informed policymaking, opportunities for researchers to exchange experiences and learn from each other’s failures are limited. This presentation seeks to: (a) analyze key concepts in evidence-informed policymaking, based on the health information pyramid; (b) identify obstacles and facilitators in the translation of knowledge into actionable policy; and (c) present both successful and unsuccessful examples from our initiatives to influence health policy in Belgium. Specifically, we will discuss the concrete impact of the Belgian Health Status Report and the role this report plays in the development of actionable health objectives for Belgium. We will also cover the role of healthybelgium.be in governing and monitoring the health status of the Belgian population by discussing why this website has been recognized by WHO Europe as a model of good practice in evidence-informed policymaking.

9.Q. Round table: Strengthening public health law for public health professionals

Abstract citation ID: ckae144.618

Organised by: Aletta Jacobs School of Public Health (Netherlands), University of Groningen (Netherlands), EUPHA-LAW, Global Network for Academic Public Health, Faculty of Public Health (UK), ASPHER, Temple University (UK)
Chair persons: Brigit Toebes (Netherlands), Farhang Tahzib (EUPHA-ETH)
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Law is a tool that public health experts can use to improve population health. Generally, law offers a range of opportunities: it can encourage healthy and safe behaviours; it can change and shape the physical and social environments; influence the social determinants of health, as well as structure the public health system. Law can also compel or restrict, and legal systems can provide accountability and oversight. ‘Public health law’ stands at the intersection of public health and law, and offers a range of powerful tools for improving health (Burris et al, 2018). While public health law is an important field for public health professionals, there is a lack of knowledge about this field, and a lack of interaction between public health professionals and law professionals. There is also a need to understand the ways law might challenge public health goals. For example, law can be used to promote goals which do not improve public health, or public health concerns can be sidelined, and law can be a tool for challenging specific public health interventions. The focus of this roundtable will be on identifying and building necessary capacities for using law by public health professionals. End-goal is to identify new initiatives to consolidate and to strengthen public health law as an important field for public health professionals. To achieve these aims, we have set three practical steps for the roundtable to embark on: 1) strengthening collaboration; 2) identifying knowledge gaps and opportunities; and 3) starting new initiatives:
1) Strengthening the collaboration and building new partnerships: we bring together experts from law and public health to identify the gaps and opportunities when it comes to implementing law by public health professionals. The roundtable will foster new collaborations and partnerships between law and public health professionals.
2) Identifying gaps and opportunities: there is a need to identify deficiencies in health policy research and how to use scientific legal research methods to overcome these problems. Relatedly, to share experiences and best practices when it comes to teaching public health law. Opportunities include the transdisciplinary model and legal epidemiology; a focus on the commercial determinants; and applying a human rights lens. Panelists - in an interaction with the audience - will identify key opportunities and discuss ways to implement them.
3) Starting new initiatives: panelists will be asked to concretize existing initiatives and discuss with the audience how they can be integrated in the field, based on our new partnerships. New collaborations will be identified. This may vary from building a new network, applying for a joint research grant or for strengthening or complementing existing teaching modules.
Altogether, this roundtable aims to strengthen our understanding of existing efforts and of the various ways in which public health expertise can be integrated in better law making.
Key messages:
- Drafting of sound laws that improve health is a joint practice of various professionals, including legal and public health professionals.
- We need to strengthen existing capacities and build new ones for using law by public health professionals.

Speakers/Panelists:
Timo Clemens
Maastricht University, Maastricht, Netherlands
Regien Biesma
UMC Utrecht, Utrecht, Netherlands
Edward Kirton-Darling
University of Bristol, Bristol, UK
Scott Burris
Temple University, Philadelphia, USA
Dominique Mollet
Joint Research Council EU, Ispra, Italy

10.A. Round table: Transforming public health systems at large scale: no pain, no gain

Abstract citation ID: ckae144.619

Organised by: WHO/Europe
Chair persons: Natasha Azzopardi Muscat (WHO/Europe), Emilia Aragon De Leon (WHO/Europe)
Contact: aragondeleonm@who.int

The COVID-19 pandemic, acceleration of climate change, and geopolitical turmoil have triggered discussions about how public health systems in Europe need to transform to be adequately equipped for the so-called "permacrisis". The challenges to policy makers, health institutions and health services have become so multifaceted, that single solutions from the health sector alone no longer work. Yet, despite the complexity, countries seek to get its own house in order whilst building on inter-sectoral and European approaches in parallel. Germany, Ireland, and Ukraine have all embarked upon ambitious public health services and institutional reforms, leading to transformative change in public health systems. WHO has been accompanying these reforms. The workshop will provide a platform to draw insights and lessons on transforming public health systems from all three countries, although their population size, their socioeconomic and political situation and their public health system design is so different. As the smallest of the three countries in population, Ireland created coherence and is aligning public health actors within "Healthy Ireland" and the Sláintecaire and the Crowe Horwath public health reforms. Germany's "Pact for the Public Health Services" has been one of the greatest public health investment programs in Europe that was initiated following lessons from the COVID-19 pandemic. And Ukraine has undertaken important legal steps to adopt a Public Health System Law, in the middle of a war of aggression on its territory. The workshop will exhibit the process of large-scale public health system transformation in each of the three countries. The purpose is to identify the enablers that make large scale system transformation possible and addressing some of the pains and gains. The workshop will have three parts. Part one consists of three presentations on large scale system reforms from each of the participating countries. Part two consists of a moderated Q&A session. Part three will focus on the synthesis of enablers for large scale public health system reforms through interaction with the workshop participants, using a digital white board.

Key messages:

- Disruptive times can create enabling conditions for large scale public health system transformation.
- Designing and implementing large scale public health system reforms is complex, requiring passion, resilience, and collaborative leadership.

Abstract citation ID: ckae144.620

Large scale system transformation: Ukraine

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In the context of the EU-Ukraine Accession agreement, Ukraine started large scale public health systems reform back in 2015. The COVID-19 pandemic tested the response capacity of the national public health system and led to some improvement during the pandemic such as on laboratory capacity. It also generated lessons for strengthening national and subnational health emergency preparedness and response. Multiple interventions, including a Joint External Evaluation led to the adoption of the Public Health System Law in 2022, laying the foundation to bolster health promotion, disease prevention, and health protection. The Ukrainian Public Health Centre was substantially strengthened, partly oriented on models in other European countries. Corresponding centers for diseases control and prevention at the oblast level were reformed and a subnational network of these centers was created. While the war has a significant impact on the public health system, infrastructure, people and more, decision makers and professionals keep working on sustaining and moving forward the achievements on public health reforms, for example with the adoption of the National Health Strategy 2030 and the adoption of the National Health Security Plan. Further legal and strategic preparations are afoot to strengthen public health services governance capacity, financing, institutional innovation and development, and public health workforce development.

Abstract citation ID: ckae144.621

Large scale public health system transformation: Germany

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The COVID-19 pandemic was a stress test for public health services in Germany. Decision making was complex (party lengthy and inconsistent) due to the divided responsibilities within the federal system. Some improvements on the public health system were already enacted during the pandemic. A "pandemic radar" was established to bundle up relevant infectious disease indicators with indicators of health services use. The national electronic notification and information system for infectious diseases was extended. Digital improvements were made in the public health offices. Laboratory capacity was strengthened, so was inter-science modelling to forecast pathogen spread. A nation-wide collaborative mechanism, the cloverleaf system, was introduced between regions to avoid the overburdening of hospitals. It is now established for times of excess need for inpatient services. In 2020, a 4 billion euros investment program, the "Pact of Public Health Services", was adopted to strengthen and modernize the German public health service institutions. The pact is implemented until 2026. The human resources component is the largest. Further priorities include digitalization, improvement of the infrastructure (of designated ports and airports) for the implementation of the International Health Regulations, research and the creation of agile and resilient public health structures. Outputs so far include the establishment of more than 4800 new public health positions, the appointment of new professorships for public health services, the initiation of several research projects, and the roll-out of more than 300 digitalization projects. A new federal institute for prevention is planned. It aims to foster networking between public health services, strengthen health communication, data use, and evidence for public health services. In this process, WHO advised the federal ministry e.g. on behavioral insights; heat health action; prevention on noncommunicable diseases and others. Many public health actors have provided opinions. However, consensus building on how Germany can overcome fragmentation in public health is ongoing.

Abstract citation ID: ckae144.622
Large scale public health system transformation: Ireland

Breda Smyth

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Ireland has coped comparatively well with the COVID-19 pandemic when considering excess mortality. The reasons are likely complex and multifaceted, but it may be, in part, attributable to a comparatively young population and progress on indicators related to premature mortality and preventable mortality on chronic diseases and lifestyle risk factors. "Healthy Ireland" is a national framework in place since 2013 and utilizes a settings based approach to promote health and wellbeing in communities. It aims to improve collaboration between government, institutions, local communities, and individuals. Sláintecare is an all'party long-term health reform initiative developed in 2017 aimed at delivering the right care, at the right time, in the right place by the right team. In addition, in 2018 Ireland embarked on an ambitious public health reform programme with the implementation of the recommendations of the Crowe Horwath review of Public Health. While challenges exist, including access to services and waiting times, the governments has put in place initiatives to address these and is committed to, amongst other things, promo ting the continued integration of services across a variety of domains including primary to quaternary prevention. As Ireland began to emerge from the COVID-19 pandemic it established "The Public Health Reform Expert Advisory Group" to identify learnings from the public health components of the response, with a view towards strengthening public health and health protection generally and, specifically, future public health pandemic preparedness. The group, made up of national and international public health experts, submitted its final report in September 2023 which outlined a series of recommendations focused on potential improvements to public health policy, structures and governance. The WHO analysis of the Essential Public Health Functions provided complementary results. More work is now ahead to consider and implement these recommendations and foster institutional reforms including at the Health Services Executive, the Department of Health, and at the Health Protection Surveillance Centre.

10.B. Scientific session: The European Health Data Space (EHDS): A sea of change for health data in Europe

Abstract citation ID: ckae144.623

Organised by: DG SANTE European Commission
Chair persons: Jerome de Barros (Belgium)
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A wealth of data is generated every day throughout our health systems which, if leveraged well, can underpin the digital solutions and policies that will transform health and care. However, the complexity and divergence of rules, structures and processes within and across European Member States make it difficult to fully harness that potential at European scale. The European Health Data Space will address this challenge by empowering Europeans to access and control their health data and by offering a harmonised and simplified framework for the reuse of health data, including for research, innovation, and policymaking purposes. During the workshop, we will present an overview of the European Health Data Space framework and its implementation phases and discuss its benefits for targeted stakeholders, including citizens, researchers and policymakers in public health.

Objectives: 1. Emphasise the importance of leveraging health data for research, innovation and policymaking; 2. Present the European Health Data Space regulation and what actions are being undertaken to prepare for its implementation; 3. Discuss how access to their health data can enable patients and individuals play an active role in their own health journey; 4. Discuss what will be the main benefits for policymakers and researchers in public health resulting from enhanced access to health data.

Introduction by Chair for presenting the European Health Data Space and the setting the scene for the session. Short presentations by speakers:

1. Implementing the EHDS: lessons from the EHDS2 pilot - Marianne Benderra, Health Data Hub, presenting his experience on developing and piloting the EHDS infrastructure for secondary use of health data, highlighting key project developments;
2. How can the EHDS enable participatory healthcare? - Henrique Martins, ISCTE, xShare project on how the xShare "Yellow Button" will empower individuals with access to and control over their health data and may foster the development of knowledge and tools necessary for prevention and management of their health;
3. What will the EHDS enable for research and policymaking? - Nienke Schutte, Scienciano, bringing the perspective of a leading European public health institute how the benefits the EHDS framework can bring for policymaking, research and innovation.

15 min Q&A session, taking questions from the audience, possibly also through Slido. Possible guiding questions: How can stakeholders contribute more broadly to the development of the EHDS? What support is needed to ensure that data users and data holders are prepared when the EHDS framework becomes operational?

Conclusions: 2 min by Chair.

Speakers/Panelists:
Marianne Benderra
French Health Data Hub, Paris, France
Henrique Manuel Martins
ISCTE, Lisbon, Portugal
Nienke Schutte
Sciensano, Brussels, Belgium

10.C. Scientific session: Shifting the focus of health and economic policies: Investing in sustainable health and well-being

Abstract citation ID: ckae144.624

Organised by: Finnish Institute for Health and Welfare (Finland), Society for Social Medicine (Finland)
Chair persons: Ilmo Keskimäki (Finland), Tea Lallukka (Finland)
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The main theme of the 18th European Public Health Conference, to be held in Helsinki in 2025, is 'Investing for sustainable health and well-being.' The theme emphasizes the concept that improving population health and well-being is an investment rather than an expenditure, benefiting society as a whole and contributing to a more sustainable economy. This workshop will introduce the thematic areas of the 2025 European Public Health Conference through three presentations. First, we will highlight the approach of public health policy drawing on the economy of well-being and its application in wider societal policymaking. Second, we will explore how EU policies can contribute towards a Wellbeing Economy and how to ensure health and wellbeing remain on policy-making agendas. Third, we will present an economic case for investing in health and health systems and highlight the co-benefits it brings to other policy areas and sustainable development goals. Finally, we will discuss the future expectations for European public health policy. The workshop will conclude with a general discussion, providing the audience with an opportunity to propose topics for inclusion in the programme of the European Public Health Conference in 2025.

Key messages:

- Improving population health and well-being is an investment rather than an expenditure.
- Investing in the population's health and well-being brings co-benefits to other public policy areas.

Abstract citation ID: ckae144.625
Wellbeing Economy: Integrating Sustainability and Social Welfare

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Wellbeing economy refers to the interconnectedness of the economy, social security, healthcare, planetary boundaries, and overall welfare, highlighting the long-run sustainability of the socioeconomic system in accordance with the UN Sustainable Development Goals. As the OECD concisely states, the wellbeing economy is meant to put people and their wellbeing at the centre of policy. In Finland, where the Ministry of Social Affairs and Health is currently rendering the concept into an official steering model for policymaking, the wellbeing economy has historically developed in relation to the Nordic welfare model, which has helped regulate demand with high efficiency. This presentation will introduce the core principles of the Finnish wellbeing economy, discuss its relationship to the Nordic welfare model, and explain how the wellbeing economy has successfully given rise to rapid and inclusive growth.

Abstract citation ID: ckae144.626
The potential of EU policies for achieving wellbeing economies

Caroline Costongs

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The environmental crisis, growing levels of social inequalities and rising levels of non-communicable diseases are all symptoms of economic systems that are failing to generate wellbeing. There is increasing support for the notion that addressing these crises requires shifting the focus from economic growth to a broader range of measures that reflect wellbeing, through more comprehensive, consistent and integrated policy approaches to deliver this. This presentation explores to what extent the concept of the Wellbeing Economy is being applied at the EU level, by tracking changes in some of the EU's key policies and strategies over the past 10 years and in the Semester process, as a mechanism to implement them. It concludes that while progress towards more integrated policy approaches have been made, it is limited by the continuing emphasis on economic, over other policy areas. Recommendations will be made for an even more comprehensive EU Strategy that enables policy sectors to deliver wellbeing objectives in a more coordinated manner and on how to ensure health and wellbeing remain on policy-making agendas.

Abstract citation ID: ckae144.627
How do health systems and health contribute to the sustainable development goals?

Jonathan Cylus

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While there is considerable research and policy interest into how factors outside the health system (i.e. social determinants) influence health outcomes, there has historically been less interest in how health and health systems affect other economic and societal objectives. Such evidence can be useful to health policymakers making the case for investing in health systems to demonstrate that health systems do more than just improve health. The European Observatory on Health Systems and Policies has put together a special issue of the journal Health Policy to explore the evidence on how health and health systems advance the Sustainable Development Goals (SDGs), which provides a helpful conceptual framework for considering economic and societal objectives. The articles each consider a particular SDG and review relevant literature with an emphasis on causal studies to explore the ways in which health and health systems have causal effects on key societal objectives such as poverty reduction, gender equality, climate change, and responsible consumption. In this presentation we will provide a summary of the findings from the special issue, highlighting areas with the strongest (and weakest) evidence and discuss how this work can be factored into budget negotiations and decisions about resource allocation.

10.D. Oral presentations: Bridging the gap of health inequalities

Abstract citation ID: ckae144.628
Future patterns of health inequalities in the population of England to 2040: a microsimulation study

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Introduction: The existence of wide inequalities in health across England is well-documented. Our research adds to this evidence on inequalities in self-reported health by describing current patterns and projecting future patterns of inequality in diagnosed illness across multiple conditions by deprivation.

Methods: We used the IMPACTNCD microsimulation model that simulates a close-to-reality synthetic population of adults in England from 2019 to 2040. This model combines individual-level data on demographics, health and mortality from linked administrative data for primary and secondary care with survey responses on individual-level risk factors and epidemiological evidence on the associations between risk factors and chronic illness. This model can be adapted for other countries based on data availability. We used the Cambridge Multimorbidity Score (CMS) as our multimorbidity measure. This assigns a weight to 20 common long-term conditions based on individuals' healthcare use and their likelihood of death. We further focus on "major illness" which corresponds to a CMS greater than 1.5.

Results: In preliminary results, we project that health inequalities are not projected to improve between 2019 and 2040. In 2019, the difference in the average time spent without major illness between the most and least deprived 10% of areas in England was 10.4 years. This is projected to remain largely unchanged at 10.7 years (8.8, 11.7). We also find that in 2019, the share of working age people living with major illness in the most deprived 10% of areas in England (14.6%) was more than double the rate seen in the least deprived 10% of areas (6.3%). In 2040, we project these rates to remain largely unchanged at 15.2% (13.0%, 17.6%) and 6.8% (5.4%, 9.1%) respectively.

Discussion: On current trends, health inequalities are projected to persist into the future. This has significant implications not just for population health but for labour supply and wider economic growth.

Key messages:
- If current trends in risk factors continue into the future, existing wide inequalities in diagnosed illness in England are projected to persist onto 2040.
- With significant disparities in major illness among the working-age population, this has implications not just for population health but for labour supply and wider economic growth.

Abstract citation ID: ckae144.629
Empowering People Experiencing Homelessness for cancer prevention using the Health Navigator Model

Tobias Fragner

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Cancer poses a significant public health concern. Reports highlight that cancer-related mortality rates are double among people experiencing homelessness (PEH). CANCERLESS project delivered an innovative solution based on the Health Navigator Model (HNM). The HNM is an evidence-based patient-centred intervention that develops patient empowerment through health education and social support, promoting timely access to cancer prevention services. A pre-post design study conducted across four pilot sites in Europe (Austria, Greece, Spain, UK) involved 652 PEHs. Pilot interventions based on the HNM were implemented, with effectiveness evaluated at baseline and post-intervention. The study assessed the impact of the HNM on various factors including risk behaviors, lifestyles, quality of life, empowerment, health literacy, psychological distress and utilization of health and care services. Preliminary findings from CANCERLESS HNM intervention showed significant improvements ($p= .000$) in participants' quality of life (55.82 (27.65) vs. 66.18 (22.27)) and sense of empowerment (25.58 (19.95) vs. 59.94 (43.10)). However, there were no observable impacts in health literacy ($p= .509$) or psychological distress ($p= .140$), which remained within acceptable ranges both pre- and post-intervention. Similarly, there were no significant changes observed in lifestyle or risk behaviours among PEHs. Nonetheless, the evaluation of effectiveness suggested that the HNM increase in the uptake of cancer prevention care, such as cancer screening ($p= .000$). The CANCERLESS HNM intervention significantly improved the quality of life and empowerment of PEHs. Additionally, it successfully promoted their involvement in cancer prevention efforts, addressing disparities in access to preventive healthcare services. Increased engagement in such initiatives can lead to early detection and treatment, ultimately reducing cancer morbidity and mortality rates, thereby positively impacting public health.

Key messages:
- By promoting health equity and social justice, interventions like CANCERLESS HNM contribute to building healthier and more resilient public health systems.
- CANCERLESS boosts cancer prevention awareness, tackles healthcare disparities, enhances cancer early detection, benefiting public health.

Abstract citation ID: ckae144.630
The social gradient in institutional trust from 2011–2019 in the general population in Norway

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Background: Trust is described as the glue of healthy societies. Although Norway is among the countries with the highest levels of trust in public institutions, the increasing socioeconomic differences observed may threaten levels of institutional trust. Therefore, we aimed to investigate such differences in the general population between 2011 and 2019.

Methods: A repeated cross-sectional study was conducted using data on the general population in Østfold county from 2011 (N = 16673) and 2019 (N = 15935). Differences in trust toward five public institutions (healthcare system, school system, labour and welfare administration (NAV), police, and municipal council) by educational level were investigated with Chi-square tests. Logbinomial regression analyses were used to examine potential changes in high trust over time. Gender and age were included in the analyses as control variables.

Results: A relatively high proportion of the general population reported high levels of trust to the health care system (2011: 71%; 2019:80%), police (2011: 73%; 2019:77%), and the school system (2011: 64%; 2019:66%), whereas a lower proportion reported high levels of trust to NAV (2011: 37%; 2019:41%) and the municipal council (2011: 45%; 2019:36%). Both in 2011 and 2019 a clear social gradient in institutional trust was found for all institutions ($p < 0.05$). There was a significant increase in the level of trust in the health care system (low education:RR=1,10; middle:RR=1,12; high:RR=1.06) and a significant decrease in trust in the community council (low:RR=0,77; middle:RR=0,80; high:RR=0,83) in all educational groups from 2011 to 2019. The level of trust in NAV increased significantly in the highest education groups, while a non-significant decrease was shown in the low educational group.

Conclusions: The persisting social gradient in institutional trust is worrying as trust is an important factor in ensuring inclusion, social capital, democracy, and health and wellbeing.

Key messages:

- Institutional trust is an important factor in ensuring inclusion, social capital, democracy, and health and wellbeing.
- The lower levels of institutional trust found in low educational groups could be of particular concern as these groups might be more dependent on the different parts of the welfare system.

Abstract citation ID: ckae144.631
Targeted initiatives to tackle health inequalities, integrating the Leeds Health and Care Workforce

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Deprivation and poor health are significant challenges in Leeds, with the poverty gap growing in parts of the city. The Leeds One Workforce approach to narrowing inequalities (NI) was co-designed in 2021 building on the innovative partnership approach already visible in the city. Its phased approach has seen interventions put in place to boost the opportunities for people from marginalised communities to develop their skills and remove barriers to careers in health and care and has global relevance for other localities experiencing high deprivation. The overall NI approach is supported by a long-term and wide-reaching evaluation plan which mobilises our partner organisations and intends to amplify best practice in getting people into careers and supporting this group to develop within the health and care workforce. We will present findings from embedded evaluations of initiatives across the city, and individual case studies, from those who have accessed NI interventions in Leeds. These will explore the relationships and contributions of partnership organisations and presence of any unexpected barriers or facilitators to these interventions. Linking with third-sector organisations and creating accessible pre-employment opportunities to develop core working skills is a vital part of the Leeds approach to recruiting people from priority wards. Additionally, supporting people into careers in health and care which suit their values, interests and personal circumstances, in addition to employing organisations with flexibility and openness towards their employees at their core is a strong factor in recruiting and retaining from areas of deprivation. Partnership working is essential to tackling health inequalities in places of high deprivation to address individual and systemic barriers to securing employment, ensure the best chance of success for community outreach programmes, and maximise efficiencies by combining the efforts of local organisations.

Key messages:

- Leeds, UK is transforming approaches to narrowing health inequalities through partnership working across health and social care education and employment.
- Current and future best practice will be explored to demonstrate transferable NI approaches.

10.E. Scientific session: Confronting the hidden risks: unveiling the disease burden of chemicals in Europe

Abstract citation ID: ckae144.632

Organised by: European Burden of Disease Network
Chair persons: Brecht Devleesschauwer (Belgium), Sara Monteiro Pires (Denmark)
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With increasing industrialization and globalization, Europe faces a complex landscape of chemical hazards, ranging from persistent organic pollutants like PFAS to foodborne chemicals and beyond. Understanding the extent of these exposures and their associated population health risks is crucial for environmental and health policy making across Europe. The burden of disease methodology, particularly through metrics such as Disability-Adjusted Life Years (DALYs), combined with economic costs, plays a crucial role in assessing and addressing the impacts of chemicals on population health. DALYs provide a comprehensive measure that quantifies both the years of life lost due to premature death and the years lived with disability, offering a holistic understanding of the disease burden caused by chemical exposures. Additionally, incorporating economic costs into the analysis enables the evaluation of the financial burden imposed by chemical-related illnesses on healthcare systems, productivity, and societal well-being. By leveraging the burden of disease methodology, stakeholders can make evidence-based decisions to protect health of populations and allocate resources effectively, ultimately promoting healthier environments and communities. Several global and European initiatives provide platforms for evidence generation, knowledge-sharing, and action to address the disease burden of chemicals. At the global level, the Foodborne Disease Burden Epidemiology Reference Group of the World Health Organization (WHO/FERG) has estimated the global burden of foodborne diseases, including those caused by chemical contaminants in foods. At European level, the health impact of PFAS and other chemicals of high concern is being spearheaded by the European Environment Agency's European Topic Centre on Human Health and the Environment, and the European Partnership on the Assessment of Risks from Chemicals (PARC). Furthermore, the Organisation for Economic Cooperation and Development has established a project of an unprecedented scale to measure the economic value of the effects of chemicals on human health. Complementary to these international initiatives, various countries have started to unravel the burden of chemicals based on local data and contextual insights. In this workshop, we will present the state-of-the-art of the disease burden of chemicals, by bringing together insights from key international and national burden of disease initiatives, emphasizing the imperative of addressing the cost of policy inaction in safeguarding public health. We will also show how burden of disease estimates for chemicals can help to monitor the trends towards relevant environment and health goals such as those described in the EU's zero pollution ambition. Through collaborative discussions and knowledge-sharing, we aspire to identify actionable strategies for policymakers, researchers, and stakeholders to effectively address these challenges and promote a healthier future for all.

Key messages:

- Understanding the vital importance of chemical risks for European health, the utilization of DALY and economic costs reveals their true burden, guiding evidence-based policies.
- Global, regional and national initiatives are examining the impacts of chemicals worldwide, contributing to evidence gathering and policy shaping.

Abstract citation ID: ckae144.633
Health consequences of harmful chemicals in foods: insights from the WHO Global Burden of Foodborne Disease Study

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Foods can be an important source of human exposure to harmful chemicals. Contamination can occur at any stage of the food chain; with chemicals that occur naturally or by anthropogenic pollution in the environment and during production processes from farm level to the kitchen of the consumer. The variety of chemicals in foods is broad and associated with a wide range of adverse health effects. Where toxicological risk assessment of chemicals in foods serves the purpose of protecting populations from exposure levels constituting a health concern, burden of disease methodology provides a quantitative snapshot of the current impact of chemicals on disease occurrence and population health. This allows for the comparison across hazards, health effects and foods and eventually prioritized allocation of resources to maximize health benefits. Following the advice by the World Health Organization Foodborne Disease Burden Epidemiology Reference group (WHO/FERG), WHO published in 2015 the first estimates of the global burden of foodborne disease. More than 400,000 deaths and 33 million disability-adjusted life years were estimated due to unsafe foods in 2010; the largest proportion due to foodborne pathogens, as the contribution of only 3 chemical hazards (dioxins, aflatoxin B1 and cassava cyanide) was included. WHO, once more under the advice by the re-established WHO/FERG (2021-2025), is currently working to update the 2010 estimates. Besides applying updated data and methodological improvements in managing data gaps and time series analysis, WHO's ambition is to consider a wider range of chemicals and associated health effects for the year of 2020. In this presentation, we will share insights on the WHO estimates of the global burden of foodborne chemicals, and explore the methodological opportunities and challenges that estimating the burden of foodborne chemicals provides for informing policies.

Abstract citation ID: ckae144.634
Feasibility of using comparative risk assessment for chemical burden of disease assessments

Dietrich Plass

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According to the WHO, about 22% of global disability-adjusted life years (DALYs) can be attributed to environmental risks. However, comprehensive DALY estimates for chemicals are still lacking. In this study, we present a first assessment of the disease burden due to chemicals performed within the European Topic Centre on Human Health and the Environment. We selected the chemicals (groups) lead, cadmium, PFAS, pyrethroids, phthalates, and bisphenol A and estimated the disease burden for 15 risk-outcome pairs. The feasibility of using the comparative risk assessment (CRA) approach was tested, and where possible, DALYs were calculated. Data gathered within HBM4EU were used for exposure assessment. For the case studies, we selected countries with available data on both exposure and health effects. It was feasible to use the CRA, however, a major limitation was the availability of exposure data from human biomonitoring studies in EU countries. E.g. for lead, the disease burden was only calculated for a maximum of 3 countries per health outcome. Here, for mild intellectual disability, the highest number of DALYs was estimated for Germany, with 950 DALYs/1 m. persons aged 3-11 years. For PFAS, a larger set of countries was considered with the highest burden estimated for IQ-loss with 437 YLDs/1 m. babies born in France. Further, the burden due to phthalates was estimated for selected metabolites in up to 19 countries. The highest burden was estimated for the metabolite DEHP and diabetes mellitus, with about 1,324 YLDs/1 m. women in Poland ($\geq$ 25 years). The experience from the analyses supported the feasibility of using CRA for quantifying the burden of disease due to chemicals based on HBM data. The results show that a significant burden can be attributed to the 6 chemicals in the selected European countries. However, exposure data are available only for a small group of European countries, which hampered a European-wide assessment.

Abstract citation ID: ckae144.635
Large scale OECD health valuation study to estimate the economic benefits of chemical regulation

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Chemical regulation aims at protecting human health and the environment from the risks of chemicals, while recognizing the economic importance of the use of chemicals. Assessment of the societal impacts of chemical regulation and different policy options requires information on both costs and benefits. So far, regulators assessing chemicals regulations has not had access to high quality and internationally comparable data on the full monetary benefit of reducing health and environmental risk. The OECD has implemented a multi-country stated preference valuation project that covers ten chemicals-related health conditions (e.g. asthma, kidney disease, infertility, etc.) with more than 80 surveys with large samples in 22 countries. The OECD Surveys on Willingness-to-Pay to Avoid Negative Chemicals-Related Health Impacts (SWACHE) project aims to establish internationally comparable values for the willingness-to-pay (WTP) to avoid negative health effects due to exposure to chemicals. The values can be used to demonstrate and measure the economic benefits of minimising the morbidity impacts of chemical regulations, environmental policies and public policies in general. The latest valuation results of the project will be presented, along with key aspects of the joint methodology used and the plans to further expand this work. In addition, the OECD is collaborating with other intergovernmental organisations via the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) to update the cost of inaction estimates for chemicals as part of the Global Framework on Chemicals. An update on this initiative, that can benefit from the results of the SWACHE project, will be provided.

Abstract citation ID: ckae144.636
Environmental burden of disease related to pyrethroid-insecticide exposure and neurodevelopmental toxicity in Europe based on human biomonitoring

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As indicated by human biomonitoring (HBM) studies, exposure to pyrethroids is widespread in Europe with significantly higher exposure observed in children compared to adults. Epidemiological, toxicological, and mechanistic studies raise concerns about potential health effects in humans and, particularly, behavioral disorders such as attention deficit hyperactivity disorder (ADHD) in children at low levels of exposure. Based on an exposure-response function from a single European study and on available quality-assured and harmonized HBM data collected in France, Germany, Iceland, Switzerland, and Israel, an initial estimate of the environmental burden of disease for ADHD associated with pyrethroid exposure (measured by the metabolite 3-phenoxybenzoic acid) was made for individuals aged 0-19 years. The estimated yearly number of prevalence-based disability-adjusted life years (DALYs) per million inhabitants due to ADHD were 34 DALYs for Israel, 26 DALYs for France, 14 DALYs for both Switzerland and Iceland, and 4 DALYs for Germany. Additionally, a substantial number of ADHD cases, averaging 18%, were associated with pyrethroid exposure. Yet, these figures should be interpreted with caution given the uncertainty of some input parameter. In addition to burden of disease estimates due to ADHD, the associated burden of autism-spectrum disorder (ASD) due to pyrethroid exposure and the health economic costs attributable to ADHD and ASD will also be investigated further. To ensure adequate follow-up of policy measures and more robust disease burden estimates, more HBM studies are recommended, along with increased efforts to harmonize the design of epidemiological studies to ensure more meaningful meta-analyses of exposure-response functions. This is particularly important for pyrethroids as more evidence on potential adverse health effects is continuously emerging.

Abstract citation ID: ckae144.637
Evolution and future prospects in quantifying the chemical burden in Portugal

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The quantification of the burden associated with chemicals is essential for comprehending their impact on public health and implementing effective risk management strategies. This presentation underscores the significance of conducting such assessments at both national and local levels, taking into account the exposures and vulnerabilities of those populations. Our objective is to provide an overview of past burden quantification exercises in the Portuguese context while identifying ongoing and future initiatives. Drawing from past experiences, we have initially characterized the burden of the Portuguese population's exposure to mycotoxins through food consumption, particularly aflatoxins, and the consequent health burden. This laid the groundwork for discussing the potential consequences of climate change in this context and the associated burden. Subsequently, various exercises have been undertaken, incorporating diverse data sources, including human biomonitoring. Currently, several exercises are ongoing or planned, addressing different chemicals and contexts. These include arsenic and its association with various types of cancer, mercury and lead linked to cognitive impairment, and air pollution (e.g., PM2.5 and NO2) and its impact on health (e.g., cardiovascular diseases, lung cancer, asthma). Given the evolving challenges posed by climate change and emerging contaminants, understanding the burden of chemicals assumes increased importance, reinforcing the role of these assessments in safeguarding public health, guiding policy decisions, and highlighting the necessity of prioritizing research and surveillance efforts to protect human health and mitigate the adverse effects of chemical exposures.

10.F. Skills building seminar: How public health professionals can use the right to health to advance climate action and justice

Abstract citation ID: ckae144.638

Organised by: Aletta Jacobs School of Public Health (Netherlands), ASPHER, EUPHA-ENV, -LAW, EUPHAnxt, Faculty of Public Health (UK), GNAPH
Chair persons: John Middleton (ASPHER), Vlatka Matkovic (Belgium)
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The climate crisis is the single biggest threat to global health, peace and security, a crisis multiplier, and a significant driver of health inequalities. In many areas of public health policy, legal action and litigation have delivered significant and long-lasting impacts. In April 2024, the European Court of Human Rights concluded that Switzerland had violated the right to health of older women in Switzerland by failing to meet its past greenhouse gas (GHG) emissions reduction targets and set future GHG targets. State-of-the-art public health evidence provided by the Intergovernmental Panel on Climate Change and Lancet Countdown on Health and Climate Change were vital to the Court's decision, which has implications for all Council of Europe member states, and globally. Rigorous scientific evidence of health harms, including but not limited to heat stress, can inform other climate litigation grounded in the right to health. Public health researchers and practitioners are essential to this litigation. In recognition of this emerging role, in November 2023 the Faculty of Public Health (UK) and the Aletta Jacobs School of Public Health launched 'From analysis to action: climate change litigation. A guide for public health professionals' at the 16th European Public Health Conference. The guide was also endorsed by ASPHER, ASPPH, EUPHA, Global Consortium on Climate and Health Education, Global Network for Academic Public Health, Lancet Countdown, Public Health Ethics and Law Global Network, and WFPHA. This workshop will familiarise participants with recent rights-based climate litigation and explore the role of public health professionals in identifying, collecting, storing, assessing and presenting this evidence in a form that is accessible to court officials without medical training.

First, there will be short presentations on 1) the role of the law in climate action and the role of scientific evidence of health harms in human rights litigation, and 2) How to collect and use scientific evidence of health harms in climate litigation (15 minutes). Small group discussions will follow, addressing questions such as: The health harm of climate change-related heat stress was a major factor in the 2024 decision of the European Court of Human Rights in KlimaSeniorinnen v. Switzerland: What other health harms could support future cases? In what population groups? What opportunities do you see today for public health researchers and practitioners to compile such evidence to make the most compelling case? How can public health researchers and practitioners work more closely with legal experts and affected communities to bring this evidence to court? (20 minutes) The workshop will conclude with a plenary discussion of these questions and the small group responses. (25 minutes) As a result of the workshop, participants will be better prepared to identify opportunities to contribute compelling evidence of health harms in climate litigation.

Key messages:

- Rigorous scientific evidence of climate change-related health harms is proving central to success in rights-based climate litigation.
- Public health professionals have a key role in identifying and presenting compelling evidence of health harms in climate litigation.

Speakers/Panelists:
David Patterson
University of Groningen, Groningen, Netherlands
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Faculty of Public Health, Haywards Heath, UK

10.G. Practice session: Innovation technology to promote healthy lifestyles: teachings from multinational EU funded projects

Abstract citation ID: ckae144.639

Organised by: EUPHA-FN, -HP, -DH
Chair persons: Eric Breton (France), Anna Odone (EUPHA-DH -IDC)
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The global burden of disease attributable to lifestyle risk factors is constantly escalating on a worldwide scale. Inadequate diet and sedentary behaviors stand out as particularly impactful contributors to chronic non-communicable diseases, resulting in millions of deaths annually and projecting stable, alarming trends for the foreseeable future. These statistics raise significant concerns among public health experts, particularly regarding the pervasive influence of unhealthy lifestyles on younger generations. This demographic cohort's susceptibility poses a substantial threat to the future trajectory of non-communicable diseases and places immense strain on healthcare systems and global health outcomes. In light of these challenges, the imperative for public health initiatives and interventions aimed at promoting healthy lifestyles becomes glaringly apparent. Addressing the root causes of unhealthy behaviors through targeted interventions is essential to reverse the projected trends and mitigate future health risks. Public health authorities shoulder the responsibility of prioritizing such endeavors, as they play a pivotal role in shaping environments conducive to healthy living for present and future generations alike. Embracing innovative methodologies, leveraging technological advancements, and adopting modern approaches are imperative to engage and mobilize younger populations effectively. Initiatives funded by entities such as the European Union serve as promising examples, highlighting the potential for collaborative efforts to drive meaningful change. Sharing the methodologies and findings of such projects within the public health community can catalyze knowledge dissemination and foster collaboration, ultimately amplifying the impact of intervention strategies worldwide. By prioritizing intervention studies for behavioral change, stakeholders can collectively address the pressing challenge of lifestyle-related diseases and pave the way for healthier, more resilient communities. The aim of this workshop is to provide an overview of multi-national EU funded projects aiming to promote healthy lifestyles in the Mediterranean region.

Key messages:

- Innovative and more modern approaches are needed to improve the diet in the Mediterranean region.
- Children and adolescents are the main targets to counteract the rise of non-communicable diseases.

Abstract citation ID: ckae144.640
SWITCHtoHEALTHY: Switching Mediterranean Consumers to Mediterranean Sustainable Healthy Dietary Patterns

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In the Mediterranean countries profound changes in diet are taking place, largely due to cultural and socio-economic changes in lifestyle, which are leading to the erosion of the Mediterranean food cultures. The diet modernization process is noticeable; it has generated not only a modification of food choices in the direction of unhealthy foods, but also the habit of sedentary behaviours leading to an imbalance between energy intake and consumption. All of this has negative health impacts, as shown by the ever-increasing prevalence of overweight and obesity, as well as the rise of chronic diet-related diseases. The SWITCHtoHEALTHY project aims to generate an overall change of approach to the modern problem of eating behaviours, by strengthening the role of families towards the promotion of the sustainable Mediterranean food model. The main goal is to generate an actual switch to healthier dietary models, that are more consistent with the Mediterranean Diet. The project SWITCHtoHEALTHY aims to generate a dietary behaviour change in the direction of a greater adherence to the Mediterranean food model, by strengthening the role of families in the process of acquiring and maintaining healthy eating habits. The Mediterranean Diet (MD) is a healthy and sustainable food model, with an essentially plant-based dietary pattern (high consumption of fresh fruits and vegetables, cereals, and legumes). This goal will be reached by making available to families a combination of hands-on educational material and digital tools and complementing the dietary and lifestyle recommendations with easy-to-eat healthier snacking products.

Abstract citation ID: ckae144.641
UnDErstanding consumer food choices & promotion of healthy and sustainable Mediterranean diet and LIfestyle in Children and adolescents through behavIOUral change actionS: the DELICIOUS project

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Over the last decades, the abandonment of traditional dietary patterns and engagement in unhealthy lifestyles (including poor physical activity, prolonged screen time, poor sleep behaviours) in children and adolescents has been considered an important threat for the future health of the younger generations living in the Mediterranean area and the safeguard of the environment. The DELICIOUS project aims to promote healthy lifestyles among children and adolescents by implementing activities and tools to increase the adherence to the Mediterranean diet with an attention to the environmental impacts of dietary habits. The DELICIOUS project as a single-arm, uncontrolled behavioral intervention program providing formal and non-formal education activities, development of new snacks and recipe reformulation, web/mobile app development, and physical activities to school children and adolescents in five European countries. Over 2000 families joined a preliminary survey to investigate potential determinants of adherence to a healthy diet. Children and adolescents recruited from schools in the parterns' countries are now currently being recruited to participate to the intervention activities. A web application for school canteen and a mobile application for parents have been developed to help both schools and families to track and provide healthy and sustainable meals. The project aims to increase awareness of the nutritional benefits and the sustainability aspects of the Mediterranean Diet and to promote consumers' empowerment through an online platform for sustainable and healthy meal planning in the school canteen.

Abstract citation ID: ckae144.642
A school-based intervention to foster adherence to the Mediterranean diet in adolescents: the PROMEDLIFE project

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The need to maintain the production of local foods characterized by a high nutritional index, update traditional food production methodologies by developing attractive tech-based approaches, promote healthy eating habits that meet consumers' preferences and acceptability, as well as reducing the complexity of supply chains (Farm to Fork) must be addressed to ensure food and nutrition security. This is especially true in Mediterranean countries undergoing dietary and nutritional changes that affect their inhabitants' health while creating many socio-economic and environmental challenges. PROMEDLIFE aims to increase adherence to the Mediterranean diet through a multi-actor approach by encouraging the adoption of a healthy eating lifestyle while decreasing the environmental and economic impact of food production and processing. It also aims to attain optimal food communication and education through training programs that target primary and secondary students as well as their families, from children to older adults. A 4-week nutritional and sensory educational intervention in high school students involves frontal lessons, a web-app for families enrolled, and games on nutrients, food groups, balanced meals and various eating occasions, healthy and sustainable diets. In addition, adherence to the Mediterranean diet, nutritional knowledge, sociodemographic and lifestyle data, picky eating, and food neophobia are investigated. Including nutritional lectures in the school curriculum of high schools promotes knowledge acquisition about healthy diet. However, a period longer than 4 weeks may be necessary to translate this knowledge into improved eating habits. The project is still ongoing, and follow-up data collection will be performed. Final analysis, including data on picky eating and food neophobia, as well as overall eating behavior at follow-up, will allow an evaluation of possible long-term changes.

Abstract citation ID: ckae144.643

A transnational movement to support the sustainable transition towards a healthy and Eco-friendly Agri-Food System through the promotion of MEDIET and its lifestyle in modern society: MEDIET4ALL

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The Mediterranean diet is considered the world's most evidence-based low processed eating pattern for promoting health and longevity while saving water/energy and conserving land. Unfortunately, due to the modern societal trends, adherence to the Mediterranean diet model is decreasing, while the consumption of takeout and ultra-processed foods and drinks (UPFDs) is exponentially growing, with alarming levels in many European-Mediterranean (EUR-MED) regions. The overall objective of "MEDIET4ALL" is to support the transition from UPFs culture to modern and sustainable Mediterranean diet through the creation of transnational movement aiming at implementing best practices and innovative solutions to enhance the convenience, modernity, competitivity, and shelf life of Mediterranean diet. To achieve this overall objective, different multidisciplinary tailored approaches are proposed. Specifically, multicenter databases of ingredients/food and their providers will be created to promote the accessibility. Additionally, a variety of highly nutritional and antioxidant-rich "Quick & Easy" recipes that respond to modern trends while following the Mediterranean diet and considering sustainability aspects will be developed. To preserve the eco-friendly and food safety characteristics and extend the shelf life of the Mediterranean diet products, active bio-packaging will also be designed. A strategic "MEDIET4ALL" platform and m-app integrating the abovementioned MEDIET4ALL products and combined Mediterranean lifestyle interventions tailored to each user profile will be developed. Traditional and technology-based awareness and motivational campaigns with extensive marketing and advertising actions to promote MEDIET4ALL movement are also programmed. Working under the concept of a multidisciplinary approach consortium, multiple impacts, particularly supporting the transition towards a healthy and sustainable MED diet and lifestyle, are expected.

10.H. Round table: Transforming health systems in Europe to respond to the large-scale displacement from war in Ukraine

Abstract citation ID: ckae144.644

Organised by: Bielefeld University School of Public Health (Germany), WHO/Europe

Chair persons: Kayvan Bozorgmehr (Germany), Martin McKee (UK)

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The Russian invasion of Ukraine in 2022 caused one of the largest population displacements in Europe since World War II. More than 6 million persons have sought international protection in other European countries, distributed in ways that take little account of the host countries' population size, national income, or health system capacity. This workshop provides a platform to present and discuss findings of a health system impact assessment designed to anticipate the range of mid- to long-term impacts of this large-scale displacement on essential health system functions in refugee-receiving countries, identifying the challenges they face and opportunities to develop transformative policies and actions. This task is urgent given the risks of wider conflict in Europe.

Objectives: The workshop will 1) present the main findings from the health system impact assessment in seven refugee-receiving countries, 2) set out options for effective responses, considering policy and implementation perspectives, and 3) capitalise on the expertise of workshop participants to develop and refine policy options for structural reforms that not only help to sustain an effective response, but enhance the resilience of European health systems for the benefit of displaced populations and national residents alike.

Format: The workshop will comprise a panel with three speakers, followed by a roundtable discussion. Each panel member will make a short presentation (5 min) on different, but interrelated aspects of a transformative health system response to a protracted crisis scenario. These will highlight country and regional-level challenges arising during the Ukraine crisis, propose concrete policy options for transformation, and identify intersections between the health system response with other societal sectors and crises.

The workshop objectives and rationales will be introduced by Kayvan Bozorgmehr, including a short pitch-presentation (3 min) highlighting the unequal distribution of displaced persons from Ukraine and the key-findings of the health system impact assessment. The panel will include follow-up presentations elaborating specific aspects in this context: 1. Healthcare models and needs for transformative response in a protracted crisis (Dr. Nino Berdzuli, WHO Special Envoy for Ukraine Emergency Response in refugee-receiving countries); 2. Supra-national health financing as transformative reform: pros and cons (Eilin Rast, Bielefeld University, Germany); 3. Regional Geopolitical Conflicts and Population Health in Caucasus, CIS and Ukraine (Prof. Akaki Zoidze, Ilia State University, Georgia).

The subsequent roundtable discussion will be chaired by Martin McKee. It will focus on the proposed actions and considerations from a policy and implementation perspective, and workshop participants will be invited to contribute to a critical reflection regarding barriers and enablers, as well as required alliances and processes to translate the structural reforms into practice.

Key messages:

- The ongoing conflict-related displacements from Ukraine have created a protracted crisis that will require structural transformations to enhance health system resilience.

- Enhancing healthcare delivery, continuity of care, and effective health financing requires national and supra-national collaboration to sustain effective responses and prepare for future crises.

Speakers/Panelists:
Nino Berdzuli
Division of Country Health Programmes, WHO/Europe, Denmark
Eilin Rast
Bielefeld University, Bielefeld, Germany
Akaki Zoidze
Ilia State University, Tbilisi, Georgia

10.I. Scientific session: A National E-Infrastructure for Aging Research to Improve Public Health

Abstract citation ID: ckae144.645

Organised by: National E-Infrastructure for Aging Research (Sweden)
Chair persons: Ingrid Ekström (Sweden)
Contact: linnea.sjoberg@ki.se

Global life expectancy gains over the last half-century are remarkable. Yet the resulting demographic shift towards an older population poses substantial public health challenges, particularly in healthcare. To address these challenges, a profound and scientifically-based understanding of older adults' health and care requirements is needed. Recognizing the need for a better understanding of the aging process and public health challenges, the National E-infrastructure for Aging Research (NEAR) was founded in 2018. NEAR seeks to promote and support aging research by facilitating longitudinal population-based data usage from 15 well-known Swedish cohort studies on aging and health. It is based on a collaboration between eight Swedish universities and includes 15 databases with individual assessments. NEAR comprises a broad range of biomedical, clinical, social, and psychological health data from more than 90,000 adults who are 50+ years old. These individuals have been followed between 12 and 52 years. The objective of this workshop is to give an overview of the NEAR infrastructure, present results from three ongoing NEAR projects, and their implications for public health: 1) Temporal trends in dementia incidence in Sweden; 2) Personality and biomarkers of neurodegeneration and Alzheimer's disease in Swedish older adults, and 3) Characterizing risk profiles and transitions across living and care settings in Sweden. Infrastructures such as NEAR offer high-quality epidemiological data for achieving broad, interdisciplinary research goals that single databases often cannot provide. Moreover, the value added to these kinds of data includes enhanced sample sizes, variations, representativeness, and generalizability. In turn, this can address an aging society's public and clinical health demands. Eventually, this could lead to sustainable intervention strategies for improving older persons' health in the coming decades.

Key messages:

- Discover new avenues in public health aging research: Gain insights into cutting-edge aging research opportunities in Sweden, exploring key NEAR projects.
- Recognize the value of national infrastructures using high-quality epidemiological data in fostering collaborative and nationally representative public health research.

Abstract citation ID: ckae144.646
Temporal Trends in Dementia Incidence in Sweden: Insights from NEAR Data

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Background: This study investigates the temporal trends of dementia incidence in Sweden over a span of 35 years, drawing on data from the National E-Infrastructure for Aging Research (NEAR).
Methods: Our comprehensive analysis encompassed over 10,000 participants aged 50 and above. We estimated dementia incidence rates across the study period, considering birth cohort, age, and sex while controlling for potential confounders. Additionally. We explored potential modifiers influencing the estimated trend of dementia incidence.
Results: The analysis reveals a notable decline in dementia incidence rates, particularly among individuals born in more recently. Octogenarians born in the 1920-1930 cohort had a 74% lower dementia incidence rate compared to their counterparts born before 1900. Similarly, nonagenarians born in the 1910-1920 cohort experienced a 45% lower incidence rate. We further investigate determinants influencing this declining trend, shedding light on various factors shaping the observed patterns.
Conclusions: The incidence rate of dementia in Sweden has shown a consistent decline over the past 35 years, with a notable birth cohort effect indicating lower rates among individuals born more recently. This finding suggests evolving factors in lifestyle, healthcare, or environmental conditions contributing to improved cognitive health outcomes.

Key Messages:

- These findings underscore the importance of proactive public health measures aimed at sustaining and enhancing cognitive health outcomes among aging populations.
- Understanding the temporal dynamics and underlying factors driving these trends can inform strategies for promoting healthy aging and improving the quality of life for older adults.

Abstract citation ID: ckae144.647
Personality and Biomarkers of Neurodegeneration and Alzheimer's Disease in Swedish Older Adults

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Background: Personality is associated with dementia risk. Neuroticism and conscientiousness may be involved in resistance and resilience to Alzheimer's Disease (AD) pathology (ADP). These traits have also been associated with unspecific biomarkers of neurodegeneration; glial fibrillary acidic protein (GFAP) and neurofilament light (NfL). This study explores the role of personality in cognitive ageing.

Methods: We used data from the Swedish population-based studies H70 (individuals age 70 years only), and SNAC-K (individuals ages 60-104). Personality was assessed with the NEO-five-factor inventory. In H70, biomarkers of ADP were measured in cerebrospinal fluid (CSF, N = 305), except NfL which was also available in plasma (N = 1082). In SNAC-K (N = 1754), all biomarkers were measured in serum. We used multivariable regression models to evaluate the association between personality traits and ADP biomarkers, GFAP and NfL among individuals without dementia. We further examined if associations differed by age (SNAC-K only) and sex.

Results: In H70, higher neuroticism and was associated with lower Aβ42/Aβ40 ratio (B=-0.01, p = 0.02). In SNAC-K, higher openness was associated with lower NfL (B=-0.04, p = 0.03). For age 60-66, higher openness was associated with lower NfL (B=-0.09, p = 0.01), higher neuroticism was associated with higher GFAP (B = 0.09, p = 0.01), and NfL (B = 0.10, p = 0.003). For age >80, higher openness was associated with higher ptau-181, (B = 0.14, p = 0.01), and ptau-181/Aβ42 ratio (B = 0.15, p = 0.003).

Conclusions: Higher neuroticism and lower openness are associated with neurodegeneration. Higher openness may also be associated with resilience to AD-pathology.

Key messages:

- Neuroticism may contribute to neurodegeneration in people <70.
- Openness may contribute to cognitive resilience to ADP in people >80.

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Characterizing Risk Profiles and Transitions across Living and Care Settings in Sweden

Susanna Gentili

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Background: Older adults are at increased risk of frequent healthcare transitions between health care (hospitals) and social care providers (formal care and institutions). Therefore, our objective was to quantify and characterize the potential risk profiles of multiple transitions between living and care settings for older adults.

Methods: Data were obtained from the National E-Infrastructure for Aging Research (NEAR), including the Swedish National Study on Aging and Care (SNAC) and the National Patient Register, to evaluate living and care transitions of over 7,000 individuals aged 60+, across homes, formal care, nursing homes, hospitals, and post-acute facilities. A multi-state model was used to represent moving likelihood.

Results: Over 15 years, the average length of stay was two years at home, one year in home care, one year in institutionalization, eight days in the hospital, and 17 days in post-acute facilities. Older age and being a woman increased the chance of receiving home care after hospital discharge (Hazard Ratio [HR] range 1.35-4.38, 1.06-1.08), whereas multimorbidity and slow walking speed were associated with an 11%-50% increased hazard of hospitalization and home care. Generally, cognitive impairment increased the hazard of institutionalization (HR range 1.99-2.15), and disability was associated with a higher hazard of nursing home placement (HR range 2.57-3.07).

Conclusions: These findings underscore that care transition patterns are associated with different sociodemographic, clinical, and functional characteristics. This highlights the complex and dynamic interplay between these characteristics and social and health care use.

Key messages:

- The study emphasizes that hospitalization is a major driver of transitions between living and care settings for older adults.
- Age, gender, multimorbidity, walking speed, cognitive impairment, and disability all play a role in shaping older adults' transition patterns between different care settings.

10.K. Skills building seminar: Practical and methodological guidance for conducting online qualitative surveys in public health

Abstract citation ID: ckae144.649

Organised by: Institute for Health Transformation Deakin University (Australia), Health Promotion International
Chair persons: Samantha Thomas (Australia)
Contact: samantha.thomas@deakin.edu.au

Online qualitative surveys are surveys which prioritise qualitative (open text) questions in data collection. Researchers have stated that these types surveys have rich potential for qualitative researchers. They are able to collect rapid insights into new or emerging areas of health, and are an effective way of reaching populations who may not otherwise engage in qualitative interview studies or focus groups. Although these types of surveys are increasingly used by public health and health promotion researchers, there is very limited discussion in the research literature to guide researchers about the practical and methodological aspects of such surveys. This creates some challenges for qualitative researchers - as well as funders, and peer reviewers - in assessing the rigour and robustness of these studies. Using data from a range of online qualitative surveys that we have conducted with youth and adults relating to gambling, alcohol, climate change, and the commercial determinants of health, we describe the processes associated with developing, implementing, interpreting, and writing up online qualitative survey data. In this practical and interactive multimedia workshop and developing on the work of Braun, Clarke and colleagues, with a focus on Big Q interpretivist qualitative approaches. We will provide:

1. Practical examples, and lessons learned from our own studies about survey design, question development, the importance of rigorous piloting strategies, the use of novel techniques to prompt

detailed responses from participants, and the decisions that are made about data cleaning.

2. Examples of the types of responses that can be expected in different types of surveys, and how decisions are made about the quality of responses to questions.

3. Guidance about how to analyse the volume of qualitative data that is generated from such surveys, including developing robust mechanisms to ensure trustworthiness of decision making and data interpretation.

4. Tips based on our role as journal editors about how to present qualitative survey data, and how to respond to challenging reviewer comments.

Participants will be provided with a booklet containing survey templates, question examples, tips and examples of how to respond to reviewer comments.

Key messages:

- Online qualitative surveys have rich potential for collecting insights about emerging public health issues.
- This workshop will provide practical and methodological guidance for researchers who are interested in using these surveys.

Speakers/Panelists:
Hannah Pitt
Deakin University, Burwood, Australia
Simone McCarthy
Deakin University, Armadale, Australia
Samantha Thomas
Deakin University, Geelong, Australia

10.L. Oral presentations: Health policies matter

Abstract citation ID: ckae144.650

Alcohol policy and alcohol-attributed disease burden in Finland and the Baltic countries 1995-2019

Anastasia Månsson

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Introduction: Alcohol remains a significant contributor to mortality and morbidity in Finland and the Baltic countries, particularly among men. This study aimed to assess alcohol policy restrictiveness in this region from 1995 to 2019 using a modified version of the Bridging the Gap (BtG-M) policy scale and examine its association with alcohol-related disease burden.

Methods: The study utilised national statutory laws to score policy restrictiveness (higher BtG-M scores mean stricter policies) and age-standardised rates of disability-adjusted life years (DALYs), years of life lost (YLLs), years lived with disability (YLDs) and deaths per 100,000 from the 2019 Global Burden of Disease Study (GBD). Spearman correlation tests and panel data regression models were applied to assess the association between policy scores and burden of disease.

Results: Finland maintained a high BtG-M score, while the Baltic countries experienced recent increases from initially lower scores. Alcohol-related disease burden showed an inverse association with policy changes in these countries. Strongest association was seen between the BtG-M score and DALY rates attributed to injuries. Premature mortality among men constituted the largest proportion of disease burden. Discussion and

Conclusions: Despite challenges in accessing and comparing policy data over time, we showed a strong association between alcohol policy and alcohol-related harm in Finland and the Baltic countries. This study is one of the first to use the BtG-M scale to monitor changes in alcohol policies over time and their relationship to alcohol-related harm using GBD methodology. The study highlights the effects of national alcohol policies on levels of alcohol-related harm.

Key messages:

- This study stands out due to its longitudinal study design, which quantitatively compares the level of alcohol policy restrictiveness in Finland and the Baltic countries from 1995 to 2019.
- Our study suggests that shifts towards more restrictive alcohol policies are linked to reduction in alcohol-related harm in Finland and the Baltic countries.

Abstract citation ID: ckae144.651

What matters most to healthy older adults in treatment decision making: a discrete choice experiment

Vera Hanewinkel

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Introduction: Shifting to a patient centered approach is crucial for a sustainable healthcare system. Understanding individuals' priorities is essential for personalized care, especially in critical illness. Treatment decisions are often aimed at disease-specific outcomes such as life extension or survival, while patient-specific outcomes like maintaining independence may be equally vital. How healthy older adults prioritize treatment outcomes in case of a critical illness is currently unknown. Enhanced insight into their priorities can refine healthcare policy, for more personalized care. This study investigated outcomes (attributes) prioritized in hypothetical decision-making by healthy adults over 50 yr.

Methods: We conducted a Discrete Choice Experiment with individuals aged $\geq$50, comparing six pairs of hypothetical treatments with five attributes: life expectancy, independence, pain, memory complaints and societal costs. Attribute utility was analyzed using a conditional logit model, and latent class analyses were employed to explore preferences in groups.

Results: In 333 participants (mean age 70 +/- 7.7) all attributes emerged as impactful with independence being strongest ($p < 0.05$). Increased life expectancy had positive utility, but only for a two-year increase. Negative utility was found for all other attributes except mild pain and memory complaints. Latent class analyses identified two groups (22.4% and 77.6%). Group one valued life expectancy more (p .019 vs .940), whereas the second group valued independence (p .058 vs.<.001 and societal costs (p.053 vs. <.001) more.

Conclusions: In a hypothetical case of life-threatening disease, for people aged $\geq$ 50 life expectancy was not the sole relevant outcome for treatment decisions; pain, independence and societal costs are important and should be discussed in clinical decision making or healthcare policy.

Key messages:

- Older adults find patient-specific outcomes relevant for decision making.
- Societal costs are found relevant for decision making for treatment by older adults.

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A quantitative study on the impact of a new outdoor advertising restrictions policy in Bristol (UK)

Genevieve Buckland

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Background: Bristol was the first city outside London to introduce a policy to restrict adverts for high fat, salt and sugar (HFSS) products and other unhealthy commodities (alcohol, gambling, payday loans) on council sites in 2021. This research evaluates the impact of this policy.

Methods: We conducted a controlled repeated cross-sectional study of Bristol (intervention) and neighbouring South Gloucestershire (control) residents before ($n = 2{,}543$) and after ($n = 2{,}043$) the policy came into effect. Self-reported exposure to adverts of HFSS products, alcohol and gambling and consumption/use of these products was collected. The intervention effect was analysed using a weighted controlled before-after design. In addition, we analysed 2020-23 timeseries of foods and drinks purchased by 1,012 households from Bristol ($n = 217$) and control areas ($n = 795$) from Kantar's Worldpanel Take Home data. A controlled interrupted time series design was used to estimate the impact of the policy on weekly household purchases of energy and nutrients from HFSS products.

Results: Preliminary results did not indicate significant changes in exposure to unhealthy commodity adverts or consumption/use of unhealthy commodities post-intervention. However, the majority of results suggested a potential reduction; with for example a -22.1 (95% CI -47.3, 16.2) percentage point decrease in reported consumption of fast-food compared to controls. We also did not observe significant differences in weekly energy purchased from HFSS products compared to counterfactual; 897.6Kcal, 95%CI -57.7, 1,853.0, nor in purchases of fat (39.0g, 95%CI -20.1, 98.1), sugar (48.0g, 95%CI -19.8, 115.7) or salt (-0.4g, 95%CI -4.1, 3.2) from HFSS products.

Conclusions: Preliminary results indicate the new policy had no clear impact on exposure to unhealthy commodity adverts or purchasing and consumption of HFSS products. This may be attributable to the relatively small amount of total advertisement space owned by Bristol City Council (~30%).

Key messages:

- Policies restricting adverts of HFSS products and other unhealthy commodities are potentially effective tools to improve diet and to reduce diet-related diseases and public health inequalities.
- We did not observe a measurable impact of this policy in Bristol, which may be attributable to the relatively small Council-owned advertisement estate within the total available advertisement space.

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What works to reduce regional health inequalities? A case of East vs West Germany post reunification

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Regional inequalities in mortality are rising across the globe. The case of German reunification offers a unique opportunity to explore how such inequalities can be reduced, or even eliminated: following reunification, a long-standing life expectancy gap between East and West Germany was closed for women and markedly reduced for men in a period of less than 15 years. Drawing from theory on health inequalities, we investigate the contribution of material, behavioural and psychosocial factors likely related to the narrowing of the life expectancy gap between East and West Germany following reunification. We used regional data from official national statistics covering the period 1994-2020 for 15 regions in East and West Germany. Using fixed-effects models with an interaction term for regions in the East, we investigated whether within-region changes in key hypothesised factors (social security expenditure, healthcare improvements, changes in alcohol consumption, and life satisfaction), have had differential impacts on life expectancy at birth and at 65 years. We find that increases in social security benefits in the East following reunification has been the most important factor for lowering inequalities between the two parts of Germany: for every standard deviation increase in social security benefits, life expectancy at birth increased by an additional 0.20 [0.07,0.33] years for males and by 0.15 [-0.01,0.31] years for females in East relative to West Germany. We find the protective effect of social security benefits also for women at 65 years (additional 0.14 years [0.006,0.268]) but not for men. Overall, our findings suggest that increasing social security expenditure could be an effective policy-based tool for reducing health disparities across regions with different levels of economic development. This provides additional support for the relevance of the materialist hypothesis and the political economy of root causes of health inequalities.

Key messages:

- Our findings suggest that increasing social security expenditure could be an effective policy-based tool for reducing regional health disparities.
- We find support for the materialist and political economy approaches to explaining health inequalities.

Abstract citation ID: ckae144.654
Reinterpreting the NRA's Eddie Eagle GunSafe® program as a corporate political activity

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Background: In the US firearm injuries are the leading cause of death among children and adolescents. However, and despite there being limited evidence to support the adoption of gun safety education programs, firearm industry-funded groups like the National Rifle Association (NRA) promote the delivery of their education-based Eddie Eagle Gunsafe® program while lobbying against other firearm policies less favourable to the firearm industry. The study aimed to address an important research gap by examining how the NRA frame gun ownership, safety and the role of the Eddie Eagle GunSafe® program as an effective firearm safety intervention and whether the design, promotion and delivery of the program serves the corporate political interests of the firearm industry, and if so, how.

Methods: We conducted a critical analysis of program-related texts and films and the NRA's practices to promote its legitimacy and effectiveness, guided by the application of published taxonomies of corporate framing and action strategies. Data was collected from the program-specific websites and other NRA outlets to capture the breadth of strategies used to promote their education program.

Results: The NRA's practices support the corporate political agenda of the firearm industry. The NRA adopts framing and action strategies that present the presence of firearms in homes and communities as inevitable and normal and the education of children through the delivery of their "lifesaving" program as the commonsense and effective way of keeping children safe from firearm injuries. They make misleading claims about the effectiveness of the program while undermining the credibility of those who advocate for the safety of children and adolescents.

Conclusions: The ongoing delivery of the Eddie Eagle GunSafe® program needs to be questioned. Policies based on a recognition that children and adolescents are safest when their homes and communities are free of firearms are needed to prevent firearm injuries.

Key messages:

- The NRA makes misleading claims about their program's effectiveness and distorts understanding of what is needed to prevent firearm injuries and ensure the safety of all children.
- The firearm industry needs more attention from the global public health community. Evidenced policy measures that prioritize the prevention of firearm injuries are needed to save children's lives.

10.M. Scientific session: JA ImpleMENTAL Abstract Workshop

Abstract citation ID: ckae144.655

Organised by: JA ImpleMENTAL, EUPHA-PMH
Chair persons: Vasileia Konte (Greece), Jutta Lindert (EUPHA-PMH)
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JA ImpleMENTAL is major initiative across Europe and was initiated on the request of Member States, on October 2021 under the European Union 3rd Health Programme. The workshop is organized by JA ImpleMENTAL in partnership with EUPHA Mental Health Section, a member of the JA ImpleMENTAL Stakeholder Forum. It will include four presentations that will contribute to an interesting discussion about the future of community mental health services that are user-centered, recovery-oriented and human rights based as well as about the synergies with national strategies and the EU Initiatives. Vasileia Konte the JA ImpleMENTAL Coordinator will provide an overview of the Mental Health System Reforms based on the Belgian Best Practice model, which is implemented in 11 countries. It will elaborate on key activities and prioritized key areas of mental health system transformation as well as enablers, barriers and key lessons learned from the implementation process. Danijela Štimac Grbić from Croatia will present the Croatian experience in the implementation of a mobile rehabilitation team for providing psychosocial interventions in the community in which peer workers are employed for the first time. Based on the successful work of the mobile team, Croatia has included 30 new mobile teams in its network of public health services that will operate throughout Croatia. Teresa Nicolas Lopez from Murcia Spain will present the project "Inclusive Life Projects" which offers comprehensive community care to adults with severe mental illness within projects of autonomous living and provides a concrete and real response to their needs, with the ultimate objective of avoiding the risk of institutionalization. Anna Paradesioti from Cyprus will focus on how to achieve a smooth transition from inpatient to community mental health services promoting collaboration among those services and professionals, by adopting an intersectoral approach. Jutta Lindert will provide valuable comments by bringing helpful insights and views of the Stakeholder Forum.

Key messages:

- Transformation towards community based care increase availability and efficiency of services.
- User's centered human rights based recovery approach care with engaging stakeholders including people with lived experience.

Abstract citation ID: ckae144.656

JA ImpleMENTAL Implementing the Belgian Best Practice on Community Mental Health system Reform

Vasileia Konte

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Mental health challenges affect more than one in six people across the EU. In order to support Member States to proceed with mental health care system transformation and suicide prevention JA ImpleMENTAL, was initiated on the request of Member States, on October 2021 under the European Union 3rd Health Program. The JA consists of 39 organizations from 21 countries, more than 180 persons are working. Two advisory bodies support the consortium and provide their insights and expertise, a stakeholder forum with 10 key European Organizations in Mental Health including EUPHA Mental Health Section and WHO Europe and OECD, and the Member State Policy Committee which ensures the involvement of ministries and enables the practices to be embedded in health systems. Within the 11 countries implementing pilots under the

Belgium model using a common Implementation Strategy, a total 163 activities are implemented under the 5 following key areas: 62 on structural measures needed for the establishment of local networks promoting a user's centered, human's right based recovery approach, 43 for the development and/or transformation of mental health services, 22 on training & capacity building in support of the reform and cultural change, 22 on continuous communication, information and awareness raising, and 13 on data collection, monitoring and evaluation. An analysis of MS pilot action plans shows that most service transformation efforts have concentrated on: defining care pathways for people at risk and for those with mild to severe mental health conditions including smooth transition from child and adolescent to Adult Mental Health services, as well as from inpatient to community services, the nomination of case managers for assisting individuals to their recovery process the development of individual service plans, the Involvement of users in various layers of service delivery including peer support and the provision of assertive treatment through mobile units.

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Community mental health care in Croatia: Mobile team for psychosocial support in the community

Danijela Štimac Grbić

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The Republic of Croatia has initiated numerous reforms in the mental health care system in the community. Within the framework of EU JA Implement, a mobile team was formed to provide interventions in the community, that is, in the homes of persons discharged from psychiatric hospitals. The mobile team was formed during 2023. The team includes: one psychiatrist, leader and coordinator of the mobile team, three graduate nurses, a case manager, a social worker, three experienced experts who are employed in the team as peer workers, and one social pedagogue and psychologist. The wider composition of the team includes a psychiatrist who provides outpatient psychiatric treatment, who is familiar with the individual recovery plan and, if necessary, participates in the development of the plan. The goal of establishing a mobile team is to implement an individual recovery plan in the community, that is, in the patient's home, using biopsychosocial interventions, with the aim of better and faster recovery of the user and inclusion in the community, as well as prevention of rehospitalization and disability. Before the patients home visits, the experts in the team were trained. 15 patients were included in the pilot project, with whom 96 home visits or interventions were carried out in the time period from the establishment of the team to April 2024. As a result of the effectiveness of the pilot project, in 2024, in accordance with the Strategic Framework for the Development of Mental Health until 2030, the Republic of Croatia adopted a new network of health institutions, within which 30 mobile psychiatric teams and 24 psychological teams at the primary level of health care are planned. Empowerment of users, engagement of people with experience in the implementation of interventions, increase in mental health literacy of the population and destigmatization are additional results of the implementation of mental health protection in the community through JA impleMENTAL.

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Improving cooperation between Hospital and the Community Mental Health Services of Nicosia

Lampros Samartzis

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In order to accelerate psychiatric reform in Cyprus we took advantage of JA Implemental during the pilot implementation of Belgium best practices on facilitating the transfer of mental patients from mental hospital to the community mental health services. A multidisciplinary network has been organized between Athalassa Mental Hospital, that is the only mental hospital in the Republic of Cyprus performing 700 patients admissions yearly, and the Community Services of sector 1 and sector 2 of Nicosia Community Mental Services. The network meets regularly in order to facilitate therapeutic culture change in the direction of increasing the percentage of hospital patients that are motivated and prepared to be voluntarily moved for care by the community multidisciplinary teams. This is going to facilitate discharges from hospital, decrease duration of hospitalizations, decrease the frequency of hospitalizations and revolving door readmissions. This increased cooperation is being built on the basis of administrational procedures and clinical protocols that are based on multidisciplinary consensus. The evaluation starts multidisciplinarily in the hospital. A liaison community mental nurse takes part I the evaluation and motivation of the patients before the discharge from the hospital. A written informed consent process takes place in the hospital for the voluntary admission in the community mental health care setting. Also an effort is being made for early written referrals and appointments for community psychiatrist, psychologist, social worker and occupational therapist. This pilot action plan is going to increase cooperation of the mental hospital with the community mental health services, to decrease stigmatization and reform therapeutic culture to the direction of treatment in the community and recovery approach, according to Belgium best practices included in the JA Implemental project.

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Inclusive Life Projects for people with Serious Mental Disorder and/or addictions

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Project "Inclusive Life Projects" offers comprehensive and community care to people with SMD/A within projects of autonomous living, which provide a concrete and real response to their needs, with the ultimate objective of avoiding the risk of institutionalization. Currently, 26 actions have been designed and are being implemented within JA ImpleMENTAL pilot in five municipalities in the Region of Murcia: Caravaca, Cartagena, Lorca. Molina de Segura and Yecla with a participation of 50 people with SMD/A. The following elements are selected from the Belgian good practice: • Creation of local intersectoral networks promoting person-centered care process; • Personalization of care through the Individualized Care Plan, responding to the needs, and desires of people with SMI/A, activating the appropriate support; • Professional case manager. It generates the well-being of people on an empathy and trust basis and articulates coordination so that the agreed Plan can be developed as planned.

A strategic and support coordination tool for action and facilitation of institutional support, the Social and Health Coordination Protocol for people with SMI/A, has been developed. The protocol facilitates the creation of coordination structures, among them the Socio-Health Coordination Base Teams stand out, teams made up of professionals from the different agents involved, multi-professional and intersectoral, (Mental Health, Primary Health Care, Social Services, Social Initiative) taking into account the needs of the person. It also serves to share information, detect training needs, influence resources, etc. PETRA, a computer platform, has been developed for sharing information between the systems involved, especially the health system and the social services system, both primary care, hospital care and specialized care. It allows the exchange of information, in real time, between professionals, the planning of actions, and the design of indicators and control and evaluation processes.

10.N. Scientific session: Gender and parenthood: short and long-term income, career, and health inequities

Abstract citation ID: ckae144.660

Organised by: Institute of Public Health of the University of Porto (Portugal)
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Despite the last decades' changes in the distribution of household and child-rearing tasks, its main responsibility tends to fall on women. As such, parenting may remain an important determinant of gender inequalities in income, careers, and health and well-being. In 2022, on average, European women's gross income was 12.7% below men's. This income gap is, in part, explained by inequalities in full-time employment: in the EU, 31.5% of women with children worked part-time, which contrasts with 20.2% of women without children, with 4.9% of men with children, and 7.2% of men without children. These income and career impacts may occur due to the persistence of some traditional conceptions of the division of paid and nonpaid labor. These conceptions, and the subsequent inequalities in career progression and income, may be reflected in women's living conditions, work-family conflict, chronic strain, well-being, and health. Yet, it can also be posited that men, experiencing the pressure to remain the main provider in the family and the most recent expectations to comply with childrearing roles, may also see their well-being and health affected. However, countries with higher gender equity have shown better results in life expectancy and healthy life expectancy for women and men. It can be argued that women and men, especially those who have children, benefit from countries with more progressive parental policies, such as longer and more equally divided parental leaves, accessible childcare, or flexible working schemes. It could, thus, be expected that these countries present higher gender equity in paid and nonpaid work division, career progression, and income, with a higher couple balance, and healthier family environments, with health gains for women and men who are parents and their children. This workshop aims to present and open to discussion recent research outcomes on the role of parenthood on income, career, and health inequalities across European countries. It will show results from quantitative and qualitative studies that focus on analyzing these impacts in the short- and long-term. By discussing these results, researchers and public health professionals may grasp parental, labor market, or social policies or health programs to foster gender equality in access to better living conditions and health, especially during and after parenthood.

Key messages:

- Parenthood may widen gender inequities regarding income and career progression, contributing to the gender gap in health and well-being.
- By understanding the magnitude of gender inequities and their distribution across countries, public health researchers and professionals may identify policies that effectively address the gender gap.

Abstract citation ID: ckae144.661

The indirect costs of motherhood and fatherhood: impacts on income, working hours, and perceived health across 32 European countries

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Background: Parenthood may affect men's and women's personal lives, professional careers, and well-being differently. In the last decades, structural modifications in gender norms, the labor market, and family-supporting policies have occurred, but with cross-country variations, even within European borders. This study aimed to update the estimates on the impact of parenthood on men's and women's income, working hours, and perceived health status, and better comprehend their variation across 32 European countries, using a longitudinal approach.

Methods: Data from the European Survey on Income and Living Conditions (2004-2020) were used to estimate the income variation and the likelihood of transitioning into a non-income status, less than 40 weekly hours, and less than very good health status, from one year before to one year after parenthood. Estimates were done by sex and country. Pooled effects were estimated using random effects meta-analysis.

Results: We found a short-term 29% income penalty for women and a 12% income premium for men after parenthood. Seventy percent of women who transitioned their status after motherhood shifted to work less than 40 hours per week while no effect was found for men. Regarding perceived health, no shifts were overall observed. A large cross-country heterogeneity was found.

Conclusions: Motherhood-related income penalties concurred with losses of employment and reductions of weekly working hours, while among men the income premiums were not necessarily coupled with transitions to employed status or 40 weekly working hours. The cross-country heterogeneity is, probably, multifactorial, depending on countries' policies, norms, labor market, and social structure.

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Differences in the work-family experience of mothers and fathers of a southern European country

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Background: The intense childrearing years often coincide with the heightened work demands and responsibilities of the career-building years. We aimed to evaluate the association between family-life stage and men's and women's experience of work and private demands, and the conflict between these demands.

Methods: We evaluated 3532 mothers and 731 fathers as part of the Portuguese population-based birth cohort Generation XXI (2018-2020). Data on family-life stage (exposure), work demands, private demands, and work-to-family conflict (outcomes) were retrieved at the 13-year follow-up wave, as well as data on sociodemographic and household characteristics. Family-life stage was operationalized according to the age of the youngest child: stage 1 ($\leq$5 years), stage 2 (6-11 years), and stage 3 ($\geq$12 years). Ordinal logistic regression models were used to estimate associations.

Results: Men reported more frequently long working hours, while women spent more time on household and child-related tasks. After adjustment for parents' and household characteristics, mothers and fathers with younger children were more likely to report spending more time on child-related tasks (ORmothers = 1.83; 95%CI 1.44, 2.33; ORfathers = 2.36; 95%CI 1.41, 3.94), compared to those with older children. Fathers with younger children were also more likely to report spending more time on household tasks (OR = 2.20; 95%CI 1.30, 3.73 for routine tasks and OR = 1.75; 95%CI 1.03, 2.97 for sporadic tasks). Mothers exhibited a significant association between family-life stage and time-based work-to-family conflict when they had younger children (OR = 1.24; 95% CI 1.05, 1.47 for family-life stage 2 and OR = 1.28; 95% CI 1.00, 1.63 for family-life stage 1).

Conclusions: Both fathers and mothers with young children experienced increased private demands, but only mothers experienced work-to-family conflict. This reveals that family and working arrangements remain marked by a gendered pattern against women.

Abstract citation ID: ckae144.663
The impact of parenthood on well-being: a qualitative study of mothers' and fathers' perceptions across European countries

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Background: Parenthood significantly impacts the well-being of mothers and fathers. Yet, their experiences may differ according to societal roles and expectations. Parenthood can bring joy and fulfillment, but also emotional strain, particularly for mothers. Fathers' involvement in caregiving has been recognized as crucial for family well-being, but studies on its health impact remain scarce. This study analyzed mothers' and fathers' perceptions of how parenthood affected their personal and professional well-being.

Methods: We conducted 30 semi-structured interviews with Portuguese mothers and fathers living in Portugal, Sweden, Norway, Germany, the Netherlands, the UK, Spain, and Italy. Thematic content analysis was performed to analyze the interviews.

Results: After becoming parents, male interviewees reported career benefits such as higher pay and career growth due to increased workload, while female interviewees reported greater family overload that spilled over into their professional lives. In Portugal, women faced work-life conflict as they felt more competent than their male partners in providing care and maintained their full-time paid work. In countries like Germany and Spain, women assumed the role of main caregivers but reduced their work commitments, either by working fewer hours or leaving the workforce. Self-reported health declined for both after parenthood, but differently. Some fathers engaged in less healthy behaviors, resulting in weight gain. In contrast, mothers, particularly in Portugal, were more prone to express emotions such as guilt, pressure, and anxiety due to role conflicts as workers, mothers, and wives.

Conclusions: Traditional gender norms still shape parental roles in work and family life, differently affecting women's and men's well-being. To address gender inequalities in parenthood, equal access to supportive measures such as shared parental leave is needed, as well as flexible working arrangements and childcare services.

Abstract citation ID: ckae144.664
The long-term impact of parenthood on women and men's income in 26 European countries

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Background: Historically, women's roles were predominantly associated with motherhood, leading to significant career interruptions and lower incomes compared to men. As gender roles have evolved, as did labor policies protecting parents, it would be expected that income penalties in women and income premiums in men would attenuate, especially in the long term. This study aims to assess the association between the number of children and the income earned by women and men in older adulthood.

Methods: We used data from wave 8 of the Survey of Health, Ageing, and Retirement in Europe (SHARE), which includes 43,772 participants with 50 years old or over and their partners, living in 26 European countries. Multilevel analysis was employed to estimate the association between having children and the total, employment-related, and pensions-related incomes, adjusting for sociodemographic characteristics and clustering by country.

Results: The highest median annual total income was identified for individuals living in Bismarkian (€19,000) and Scandinavian countries (€17,708), more than twice the income earned in the European remaining countries. Having had children was associated with lower total income (OR = 0.870 for 1-2 children, OR = 0.773 for 3-5 children, OR = 0.666 for more than 5 children; $p < 0.005$), and women received lower total incomes (OR = 0.694; $p < 0.001$). These patterns were also found for employment- and pensions-related incomes.

Conclusions: There is a long-term negative effect of having had children, and of the number of children, on income, both employment and pension-related, but women continue to receive about 30% lower incomes than men. The adoption of comprehensive policies stimulating a more equal gender distribution of childrearing responsibilities, while protecting parenthood, along with recognizing caregiving responsibilities in pension calculations, could mitigate these disparities and promote gender equity and better living conditions at the older ages.

10.O. Scientific session: Breaking Barriers: Advancing Vaccine Access for Newly Arrived Migrants in Europe

Abstract citation ID: ckae144.665

Organised by: Prolepsis Institute (Greece), Italian National Health Institute (Italy)
Chair persons: Pania Karnaki (Greece), Silvia Declich (Italy)
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Health disparities are particularly evident in Europe among Newly Arrived Migrants (NAM), in accessing healthcare systems and navigating vaccination services. The AcToVax4NAM project emerged as a pioneering initiative aimed at identifying solutions to overcome system barriers, following a life-course approach. These solutions consist of a broader strategy to promote organisational vaccination literacy and enhance vaccine uptake among NAM. Employing a participatory approach, the project engaged with professionals FOR health (PFH) and NAM to ensure the relevancy of the practices developed, along with the widespread acceptance of proposed solutions and tools tackling access to vaccination services. This workshop is not just about showcasing the outcomes and impact of the AcToVax4NAM project; it's about equipping PFH with practical tools and strategies that are immediately applicable and will ultimately increase vaccine literacy and uptake. By delving into the challenges encountered, strategies employed, and recommendations formulated, the workshop offers invaluable insights for professionals seeking to address similar issues in their respective contexts. We believe that by sharing our experiences and best practices, we can empower others to make a real difference in their communities. The workshop will contain 5 presentations that follow the functional structure of the project, starting with a presentation on the General Conceptual Framework, the foundational element guiding project activities. Following this, we will discuss the development of a migrant-centered and migrant-sensitive tool aimed at improving the communication skills of PFH by providing definitions of vaccine-related terms in an easily digestible way. The third presentation will detail the development of action-oriented flowcharts across consortium countries validated through focus group discussions with PFH; the flowcharts are linked to a comprehensive repository of 359 tools. The workshop will then explore the consortium's efforts in providing vaccine literacy and cultural competency training to more than 200 healthcare professionals. Finally, the outcomes of the pilots implemented in consortium countries will be presented, and recommendations will be made that summarize the evidence-based accumulation of improved access to vaccinations for NAM and, consequently, increase vaccine uptake. This workshop fosters dialogue among stakeholders and showcases collaborative efforts to promote vaccination literacy and uptake among NAMs in Europe. Sharing experiences and best practices empowers PFH to address similar challenges in their communities, offering insights into effective strategies for improving healthcare access and promoting health equity. Finally, insights from the presentations and discussions can inform evidence-based policymaking and shape the development of immunization public health strategies at the local, national, and European levels, inspiring real change in communities.

Key messages:

- Equipping Professionals for Health with strategies to Enhance Vaccine Access for Newly Arrived Migrants.
- Equity through Collaborative Efforts in Promoting Vaccination among Newly Arrived Migrants.

Abstract citation ID: ckae144.666
Developing a structured framework to address vaccination barriers for Newly Arrived Migrants in EU/EEA

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Background: Access to vaccination is a critical aspect of public health, particularly for newly arrived migrants (NAMs) in European Union/European Economic Area (EU/EEA) countries. Despite this, significant barriers exist, necessitating urgent attention. This study addresses the pressing need to improve vaccination coverage for NAMs by developing a General Conceptual Framework (GCF) to understand and overcome system barriers and analyzing possible strategies.

Methods: starting from a theoretical conceptualization, the study employed a mixed-method approach, incorporating literature review and qualitative research. The GCF was formulated based on key components of the vaccination process. Barriers and solutions were identified through a non-systematic literature review and qualitative investigation. The GCF served as a guide for study activities, facilitating data integration.

Results: The study outlines a structured GCF comprising five interconnected steps in the vaccination process: entitlement, reachability, adherence, achievement, and evaluation of vaccination. Barriers and solutions identified through literature review and qualitative research are presented. Strategies to enhance professional knowledge, accessibility, adherence, coverage, and intervention evaluation are proposed. Recommendations include proximity strategies, provider training, migrant-sensitive approaches, and robust data collection.

Conclusions: Equitable access to vaccination is paramount for public health, particularly for vulnerable populations like NAMs in EU/EEA countries. The development of the GCF represents a crucial step towards understanding and addressing barriers to vaccination access. Implementation of recommended strategies can significantly improve vaccination outcomes for NAMs, ultimately contributing to the overall health and well-being of these communities.

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Developing a tool to support vaccine literacy with a participatory approach: Glossary of essential terms on vaccinations

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Issue: Access to vaccination services on their own is often difficult for migrants, especially newcomers (NAM), due to few vaccine literate services. Professionals who meet migrants need easily accessible vaccine information, to strengthen their ability to promote vaccination and facilitate vaccination access for NAM, especially non-medical professionals such as cultural mediators, reception staff, language teachers, social workers and community leaders.
Description: For offering accurate, accessible and actionable information by using plain language, a Glossary of Essential terms on Vaccination was developed and then tailored in each consortium countries, with a participatory approach. The Glossary is structured in two sections: vaccination related terminology and terms specific to country healthcare organization.
Results: 8 workshops were organized in Greece, Italy, Spain, Germany, Cyprus, Malta, Poland, Romania to consult health and non-health professionals who work with migrants to make the tool as actionable as possible (83 participants). Cultural mediators were most represented, followed by NGO operators and physicians. The workshops were held based on shared guidelines, the focus was on assessing the clarity, completeness and usability of the glossary. 90% reported that the glossary is clear and useful, 80% considered the tool relevant, while 75% thought it is easy to use. The Glossary has been formatted with facing text in different languages for each consortium country, thus providing a comprehensive resource (53 final versions).
Lessons: By implementing the glossary, we aim to enable, empower, guide and facilitate access to immunization for NAMs. Sharing an essential vaccine-related information tool with “professionals for health” boosts their advocacy for NAM’s vaccination and healthcare system’s responsiveness to vaccine literacy. The participatory approach increases effectiveness and permeability of the tool itself.

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Paving the way for equitable and guaranteed access to vaccination for Newly Arrived Migrants

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Background: There is a gap in knowledge on the country-specific access to vaccination for Newly Arrived Migrants (NAM) in Europe, the obstacles encountered, and the resources available to surmount these barriers. The AcToVax4NAM project addresses gaps in the vaccination process of NAM in 8 European countries by developing country-specific, action-oriented flowcharts of the vaccination pathway that identify barriers and provide barrier-specific solutions. The flowcharts are linked to a comprehensive Repository of Tools aimed at providing tools to overcome system barriers and ensuring equitable immunization access for NAM in all consortium countries.
Methods: Country-specific action-oriented flowcharts group the vaccination pathway for NAM in the five hubs (entitlement, reachability, adherence, achievement, and evaluation) and offer solutions for identified barriers. Participatory research validated these flowcharts via focus group discussions with 84 total professionals FOR health (PFH) involved in NAM immunization. The tools were sourced from all consortium countries, encompass diverse formats and languages, and provide a holistic approach to vaccination promotion.
Results: The validated instrument was deemed useful, relevant, and easily understandable. Validated barriers included the lack of multistakeholder collaboration, culturally competent PFH, tailored educational materials, and language barriers. Meanwhile, the linked Repository includes 359 tools categorized according to the five hubs of the vaccination pathway. These can be filtered by language, country, type of tool, year of issuance, and/or intended target population.
Conclusions: The flowcharts and the Repository serve as the basis for a pilot intervention aiming to strengthen healthcare system responsiveness to promote NAM immunization. This participatory approach aims to equip PFH with a clear understanding of system-level vaccination barriers and solutions to enhance vaccination uptake among NAMs.

Abstract citation ID: ckae144.669
Vaccine literacy and cultural competence training of Professional FOR health to improve the vaccination offer

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Background: It is essential that healthcare institutions have a high level of organizational vaccine literacy so that they can support Newly Arrived Migrants (NAM) to navigate, understand and make informed decisions on vaccinations in an effort to make uptake equitable. Developing training material for Professional-FOR-health (PfH) working with NAM, i.e. health and non-health workers, can improve the vaccination offer for NAM.
Objectives: A holistic training framework for PfH was designed to increase capacity building skills and cultural sensitivity of the healthcare system in promoting active immunization of NAMs. The blended training should cover four topics: “Vaccine Literacy”, “Cultural awareness/migrant sensitivity”, “Health promotion tools with community-based approach” and “Entitlement to vaccination for NAMs/NAMs profile”. As learners cannot be seen as mere recipients of notions, their needs, motivations, and experiences should be put right at the center of the training process. Therefore, a training guide and materials were shared to Consortium Countries to be adapted and implemented in their context. Training sessions were conducted in the summer of 2023.
Results: A total of 180 participants showed an average increase of 8.2% in correct answers from pre- to post-raining. Notably, 112

participants experienced more than a 10% increase in correct answers. Significant increases were observed across all topics, particularly in Vaccine Literacy (A1) and NAM Profile (A4), with increases of 52% and 74%. The training was evaluated positively with an overall index of 4.2 out of 5. All items analyzed from the satisfaction questionnaire yielded positive evaluations, with an average rating of 4 out of 5.

Conclusions: The evaluation underscores the effectiveness of training in meeting educational needs of participants. This type of training can be the groundwork for the changes needed to make the NAMs vaccination process more guaranteed and inclusive.

Abstract citation ID: ckae144.670
Empowering Professionals For Health to promote Newly Arrived Migrant vaccination uptake

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Issue/Problem: The imperative task of making access to vaccinations equitable and guaranteed for Newly Arrived Migrants (NAM) in Europe not only highlights a public health challenge but also offers a chance to tackle barriers within health systems. NAMs frequently encounter hurdles in accessing healthcare services, with vaccinations often ranking lower on their list of health priorities. The AcToVax4NAM project developed and implemented tailored interventions for Professionals FOR Health (PFH) working with NAMs in 8 EU countries.

Description of the problem: NAM often overlook vaccinations due to more immediate concerns, and health systems lack a comprehensive approach to vaccinations. Thus, piloted interventions were developed in consortium countries, working with PFH to tackle vaccination barriers. Over 3 months, each country implemented context-specific interventions to enhance health systems' responsiveness using culturally appropriate tools. Key objectives included developing procedures, improving PFH cultural sensitivity communication skills, and assessing NAM vaccination intentions.

Results: Initial findings vary depending on the country's context but generally show notable enhancements in PFH cultural competencies and increased willingness among NAM to get vaccinated. The pilots underscored the importance of tailoring strategies to specific contexts and fostering collaboration among stakeholders for a successful intervention.

Lessons: The results highlight the pivotal role of tailored interventions in addressing vaccination disparities among NAM. As PFH working with diverse populations, their role in implementing similar training programs in other settings facing similar challenges is invaluable to achieving equitable vaccination processes. Recommendations encompassing the lessons learned and challenges encountered throughout the pilot implementation will further facilitate the dissemination of this knowledge amongst relevant stakeholders.

10.P. Scientific session: Improving health security and preparedness: are we leaving someone behind?

Abstract citation ID: ckae144.671

Organised by: WHO/Europe, European Monitoring Centre for Drugs and Drug Addiction, EUPHA-IDC
Chair persons: Lara Tavoschi (Italy), Nicola Cocco (Italy)
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Prisons are unique, high-risk, high-security, complex settings; however, the impact of emergencies on prisons is a concern not only to the prison but also to the functioning of, for example, the criminal justice system, policing and courts, as well as to the general public. Prison environments can amplify infectious diseases. In the context of emerging health threats, this risk could be made into an asset through early warning surveillance and epidemiological studies. Many global and public health actors advocated for the inclusion of prisons and custodial settings in a comprehensive response to emerging threats since the early days of the COVID-19 pandemic and again during the Mpox epidemic. The increase in risk in closed environments and the vulnerability of people living in prisons make prisons and other custodial settings potential hotspots for transmission of infectious diseases and for excess morbidity and mortality. Yet, as mentioned above, prisons have been included to only a limited extent in national preparedness and response plans. Similarly, prisons are not always explicitly mentioned in international guidance on the preparation of national plans or in measures taken in the absence of such guidance. Preventing, predicting and responding to threats to the health of prison populations require scientifically valid, evidence-based interventions and assessment of the positive and negative impact of control measures on the population, especially in view of the unequal distribution of harm and disease among people living in prison and unequal access to mitigation or therapeutic interventions. Because of a general lack of timely, good-quality, translatable evidence on prison health, guidance for the management of health threats in prisons is often based on adapting other sources to the prison setting (so-called "prisonification" of guidelines), rather than on evidence specific to prisons. Prisons and custodial settings may also be affected by other biological, chemical, radionuclear and environmental hazards, all of which must be catered for in comprehensive preparedness and response plans. Timely collection of information is essential for national preparedness and response capacity to ensure rapid identification and response to threats. Again, however, the prison population is often excluded from or not explicitly identified in national surveillance systems. As a result, cases or outbreaks may not be identified or not receive an effective response, due to lack of collaborative structures between prison and public health authorities. Inclusion of prisons in local, regional, national and international emergency planning is therefore essential to test plans and revise guidance on the basis of evidence, exercises and/or real events.

This workshop aims at exploring the current landscape and deriving implications for preparedness and health security in Europe and beyond.

Key messages:

- Prison authorities should be included as stakeholders in the development of national preparedness and contingency plans according to good governance approach.

- Explicit inclusion of prisons and other custodial settings in international and national plans for preparedness and response to emerging health threats is needed.

Abstract citation ID: ckae144.672
Are prison settings included in national preparedness plans?

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With the aim to explore the extent to which places of detention are considered in national preparedness planning in the WHO European Region, a desktop review was conducted and combined with responses to the Health in Prisons European Database (HIPED) survey from Member States referring to 2020. In both searches, the aim was to identify the existence of: 1) national pandemic preparedness plans written prior to the COVID-19 pandemic; and 2) national pandemic preparedness and response plans specific to the COVID-19 pandemic. Where prisons were included, all aspects of pandemic preparedness relating to prisons were extracted and collated as per the main domains of the WHO checklist for influenza pandemic preparedness plans. The desktop review found that 30 Member States had pandemic plans accessible online, but only seven included any mention of prisons. Responses to the HIPED survey suggested wide dissemination of a COVID-19 preparedness and/or response plan, but only six out of 36 Member States referred to prisons or the vulnerabilities of people living in places of detention. The combined findings suggest that prisons are rarely considered in national planning and that lessons from previous pandemics have not led to a change in recognizing that prisons are high-risk environments for pathogen transmission and that failing to consider them in national planning may lead to impacts that affect the wider community.

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Preparing for outbreaks of vaccine preventable diseases: why are prisons invisible?

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From 1 March 2023 to 29 February 2024, 30 EU/EEA Member States reported a total of 5 770 cases of measles, 4 864 (84.3%) of which were laboratory-confirmed. Th7e highest number of cases were reported by Romania- at the time of writing, 11,397 confirmed cases, including 12 deaths from 1 January 2023 to 7 April 2024. Measles is a highly infectious disease. The best mitigation is vaccination which is highly effective. Outbreaks in many countries have been driven by decreases in vaccine coverage with a two-dose measles-containing vaccine (MCV), especially evident since the COVID-19 pandemic. In many countries, vulnerable migrant populations, ethnic groups and communities experiencing social deprivation have been over-represented in cases and under-covered by vaccine programmes. We know that prisons contain such populations. Historic seroprevalence studies of prison populations, which themselves are scant, show that prison populations are under-vaccinated. Prisons are a setting that can cause disease amplification. Given these facts, it is perhaps surprising that many countries in Europe cannot provide specific surveillance data on either cases in prisons or vaccine coverage specifically in prison populations. Further, that prisons are not often cited as specific settings for vaccine catch-up programmes in national or regional programmes. This is despite evidence of measles cases and outbreaks historically and currently in several European countries. In the presentation we will ask why this 'blind spot' in national and international disease surveillance continues and what Member States could and should do to prevent the risk of mass outbreaks of measles in prisons, causing pressures on justice and health systems and risking wider community outbreaks. Finally, we will reflect on how this experience should alert us to the risk of other infectious diseases going undetected, unprevented, and under-studies in prisons, threatening our collective health security.

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Towards better prepared prisons: monitoring and response to the use of new substances inside prison

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The use of new psychoactive substances (NPS) became an emerging issue in prisons in a number of European countries in 2014-2015. Synthetic cannabinoids were the new psychoactive substances most often reported, followed by synthetic cathinones, synthetic opioids and new benzodiazepines. Quantitative qualitative data on prison and drugs provided by 27 European Member States, Norway and Turkey to the EMCDDA (European Monitoring Centre for Drugs and Drug Addiction).

An exploratory study conducted in 2017 found signs of NPS use in prison in 22 countries. Based on 2021-2022 data from a few countries, the lifetime prevalence of NPS in prison ranges from <1 to 19%, with large variation by country. Anecdotal information from 2024 referred to the use of new strong synthetic opioids (nitazene) inside prison. A wide range of physical and mental health harms (e. g. psychosis, disorientation, suicidal ideation, aggressiveness to others or self-harm) has been associated with acute intoxication by, and chronic consumption of NPS inside prison. Recent overdoses associated with the use of nitazene were reported in some prisons in Ireland and the UK. Additionally, the use of NPS in prison can have a disturbing impact on prison management, internal violence and bullying. To date, interventions to tackle the problems related to the use of NPS in prison have tended to focus on supply reduction and controls. Health and social interventions have begun to emerge, but they remain limited. Despite signs of increasing challenges posed by the emergence of NPS since several years, prisons remain largely unprepared to monitor and respond to those challenges. A new key task of the revised EMCDDA mandate (EUDA - European Drug Agency from 2nd of July) is to be better prepared to monitor, forecast and respond to new challenges in the drug field. Prisons should be prepared to adequately address the new challenges posed by the NPS to benefit the health and security of people living and working in prison.

Abstract citation ID: ckae144.675
Enhancing Data Quality through Electronic Health Records in Prison Settings: Towards a Learning Health System

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Utilizing electronic health records (EHRs) in prison settings offers a unique opportunity to establish a learning health system (LHS) aimed at enhancing healthcare quality for incarcerated individuals. Despite the challenges inherent in prison healthcare, leveraging EHRs can facilitate data-driven decision-making and foster continuous improvement initiatives. This study describes the results of an intervention aimed at improving EHR data quality in prisons and explores the potential to enhance the development of a robust LHS. We assessed EHR data quality in 2015 (38 prisons) and 2022 (35 prisons) in the Netherlands over six months. Data were extracted, de-identified, and analyzed across demographic, medication use, (history of) diagnosis, and healthcare usage categories. We measured indicator scores and evaluated variation between prisons in data quality. This project was commissioned by the Custodial Institutions Agency. In 2015, age and gender were recorded for 93% of prisoners, increasing to 100% in 2022. Diagnostic coding use rose from an average of 82% in 2015 to 98% in 2022, with reduced variation between prisons. Consultation frequency per inmate ranged from 3 to 13, reflecting challenges in constructing a uniform denominator due to institutional differences. Mental health problems accounted for 17.7% of recorded disease episodes in 2022. In addition, consultations were most often related to oral health (4.4%), drug abuse (3.2%), sleep (1.8%), fear of diseases (1.6%), and respiratory infections (1.5%). Our findings indicate improvements in EHR data quality in Dutch prisons between 2015 to 2022. Integrating EHR data reuse into prison healthcare systems is pivotal for realizing the vision of an LHS in correctional facilities. This study underscores the potential of advancing EHR recording habits and the reuse of EHR data to enhance healthcare quality in prison settings.

10.Q. Scientific session: Evolving landscape of scientific publishing practices: implications for public health

Abstract citation ID: ckae144.676

Organised by: EUPHA-EPI
Chair persons: Stefania Boccia (EUPHA-EPI), Alastair Leyland (EUPHA)
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In the landscape of scientific publishing, questionable research practices pose significant threats to the integrity and reliability of health research. This is occurring alongside notable changes in both the quantity and quality of published work. This scientific session aims to dissect the implications of such changes and practices on public health, fostering a critical examination and encouraging proactive discourse among public health professionals, researchers, and policymakers. Meta-research can explore the nuances of publishing ethics and the idea behind this session is seeking to heighten awareness of these issues and initiate meaningful discussions among public health professionals on maintaining the integrity of scientific literature in the health domain. The session will delve into the complexities of contemporary publishing, including the proliferation of mega-journals, trends in retracted papers, journals delisted from scientific databases, and the disturbing trend of paper mills which produce fraudulent research papers. Each aspect will be scrutinized for its potential impact on the credibility of health research and the consequential risks to public health. Structured as an interactive panel discussion, the format of this session is designed to maximize engagement and foster an open exchange of ideas. Participants will be encouraged to contribute their experiences and perspectives after each of the three presentations, enriching the dialogue and enhancing collective understanding. The distinct topics presented will underscore the pervasive nature of publishing practices and malpractices across different aspects of health research, highlighting the interconnectedness of ethical challenges and their broader implications. This session will merge meta-research empirical evidence with practical repercussions, offering attendees a comprehensive perspective on how publishing ethics might be shaping public health outcomes. It aims to equip participants with the knowledge to identify dubious practices and advocate for higher standards in scientific publishing. Improving research integrity is a cornerstone for effective health policies and interventions. The subject matter is poised to stimulate debate, invite scrutiny, and inspire action. Through this discourse, the session will articulate key messages about the urgency of upholding ethical standards in publishing to safeguard health research, providing clear, actionable insights for attendees to implement in their respective fields

Key messages:

- Unethical publishing practices endanger health research integrity and might have consequences for public health outcomes.
- Acknowledging good publishing practices and combating malpractices will foster higher ethical standards in health research.

Abstract citation ID: ckae144.677

Growth and challenges in biomedical scientific publishing: the phenomenon of mega-journals

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The landscape of academic scientific publishing has seen relentless growth, with the number of articles published and indexed on Web of Science exceeding three million in 2023 alone. This increase in both the number of publications and authors has significantly impacted scientific research, enhancing our collective knowledge. In response to the surge in authorship and the shift towards open-access publishing-where authors bear the cost of publication-information has become more accessible to researchers, educators, and policymakers, fueling a lucrative global industry with annual revenues estimated at 30 billion euros. However, the system faces challenges, such as slow peer review times, potential biases towards significant findings, and issues with reviewer recruitment and compensation. Mega-journals like PLOS One and Scientific Reports have emerged in the early 2000s and 2010s, respectively, focusing on methodological rigor over novelty, publishing high volumes of articles. In 2022, mega-journals published a quarter of all biomedical literature, reflecting a shift towards specific publication scopes and capturing larger market shares. These journals charge authors publication fees in return for open access, benefiting from minimal operational costs as they do not produce in-house materials or print editions. Recent concerns include vulnerabilities to poor scientific conduct and potential biases in publication practices. Some sectorial mega-journals offer faster, often perceived as less rigorous, peer review processes. Notably, the International Journal of Environmental Research and Public Health was removed by Clarivate from the Web of Science Core Collection database, with potential wide ranging impact, especially for authors who have published in these journals (e.g., loss of the impact factor, less visibility) explored in the following presentation.

Abstract citation ID: ckae144.678

Integrity and accountability in academic publishing: trends and implications of paper retractions and journal delistings

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In the context of academic publishing, 'retraction' refers to the withdrawal of a published article from the scientific record due to issues such as significant errors, plagiarism, fraudulent data, or unethical research practices. Retractions play a critical role in maintaining the integrity of scientific literature. Retraction Watch, a blog that tracks retractions of scientific papers, lists more than 48,000 retractions in its database, with increasing trend over time (from 450 reported retractions in 2008 to a staggering 7327 retractions in 2023). The extent to which this indicates a heightened vigilance in identifying problematic research or an increased tendency in committing research misconduct or errors is unclear. Retractions can have lasting consequences beyond the retracted paper itself for authors, editors, publishers and the scientific community at large. However, not all retractions are the same, and self-reporting errors might come with minimal effects, suggesting a recognition of accountability and corrective actions. Delisting of a journal from a scientific database such as Scopus and Web of Science refers to the removal of the journal from the database's index. This can happen for various reasons, including quality concerns and ethical issues. Although this phenomenon is not necessarily correlated with the quality, integrity, or reliability of individual papers published in the delisted journal, it might still have significant impacts on the work and careers of researchers. For instance, articles in delisted journals might suffer from decreased visibility or authors might not be able to use it for promotions. The curated list of sources from Scopus is publicly available and lists around 800 discountinued sources due to quality concerns, while Web of Science made the news in 2023 for the delisting of several journals for editorial reasons, including the MDPI's giant, International Journal of Environmental Research and Public Health.

Abstract citation ID: ckae144.679

Commercialization of scientific misconduct: the challenge of paper mills

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According to an estimate, there are at least 400,000 papers in the scientific literature originating from paper mills, which are for-profit companies that guarantee the publication of low-quality papers. There is evidence that such papers are accompanied by various forms of scientific misconduct, including plagiarism, image duplication, falsification, and fabrication of data. These papers are cited and included in systematic reviews and meta-analyses, which have negative consequences for science and related disciplines. The scientific community has fragmented knowledge on paper mills, and many paper mills go undetected. Current resources of stakeholders are not sufficient to detect and prevent journals from publishing fraudulent papers. The goal of this presentation is to raise awareness of the paper mills problem and to discuss general 'red flags' of such papers, as well as possible measures to prevent editors and journals from publishing them. These measures may include open peer review, editor training, research on paper mills, improvement of detection methods, and united actions by stakeholders.

11.A. Scientific session: Overcoming Real-World Challenges in Setting up Health Data Linkages for Public Health Policy

Abstract citation ID: ckae144.680

Organised by: Sciensano (Belgium), Université Catholique de Louvain (Belgium), Universiteit Gent (Belgium)
Chair persons: Eduardo Bracho Montes de Oca (Belgium), Laura Int Panis (Belgium)
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Background: Linking available administrative data has gained momentum in the last years to enhance public health research and public health formulation. Linkage of diverse data sources can be leveraged to understand social-determinants of health, the cost-effectiveness of an intervention, and to evaluate impact of policies. For instance, data linkage has been proven to be a powerful approach to periodically analyze real-world progress of the COVID-19 pandemic. Today, we are witnessing an unparalleled increase in electronic health data stemming from citizens who interact with services such as healthcare providers, employers, sick funds, and other governmental structures. This enormous amount of data opens many innovative possibilities in epidemiological research. The main advantages of the secondary use of data are the following: 1) it is enriching for new collected data (e.g. survey study), 2) it provides comprehensive information of the target population, and 3) it is cheaper than new data collection. Data linkage between data sources is, however, often a herculean task, and it comes with considerable challenges such as: 1) juridical complexity related to intra-national and cross-border data governance procedures, 2) fragmented data integration, 3) data delivery delays. Addressing these challenges is essential to unlocking the true potential of data linkages for timely responses to emerging public health questions, thereby contributing to evidence-based policy and care and transforming our health research into a One Health approach.

Objectives: The workshop's main aim is to present the researcher's lessons-learned and approaches in applying data linkage from an European, and a country-level perspective through case-studies while creating a space for the public to share their own view. In this workshop we aim to 1) provide a helicopter overview of current data linkages approaches in Europe, 2) illustrate this with case studies from an international, and a country-level perspective, and 3) emphasize the challenges and disadvantages of those data linkages, while sharing potential solutions.

Workshop outline: The workshop is divided into a knowledge translation, and an interactive part. In the first part of the workshop, three speakers will give a presentation of each 10 minutes with a Q&A of 5 minutes between each presentation where data linkage will be introduced, and three case studies on how data linkage can be used will be presented. The first presentation will introduce approaches to data linkages in Europe, and will delve into how AI can be used during routine data linkage. The second presentation will show a case-study on how an international data linkages can be done in an European federated manner. The third presentation will further illustrate how nationally data can be linked to investigate health inequalities. In the second part of the workshop, the audience will be invited to interact with the speakers and share their experiences.

Key messages:

- A comprehensive overview of different current data linkages approaches are provided, setting the stage for discussions on methods and best practices.
- Administrative data linkages are a powerful tool to answer important public health challenges, but important challenges related to data governance need to be addressed to realize the full potential.

Abstract citation ID: ckae144.681
A cross-sectional study of data linkage and artificial intelligence practices across European countries

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Background: The availability of different data sources is increasing with the possibility to link them with each other. However, linked administrative data can be complex to use and may require advanced expertise and skills in statistical analysis. The main objectives of this study were to describe the use of data linkage and artificial intelligence (AI) in routine public health activities and the constraints to linking different data sources.

Methods: A cross-sectional survey was performed across European countries to explore the current practices applied by national institutes of public health, health information and statistics for innovative use of data sources (i.e., the use of data linkage and/or AI).

Results: In Europe, the use of data linkage and AI at national institutes of public health, health information and statistics varies. The use data linkage in routine by applying a deterministic method or a combination of two types of linkages (i.e., deterministic & probabilistic) for public health surveillance and research purposes is common in majority of European countries. The use of AI to estimate health indicators is not frequent among these institutes. The complex data regulation laws, lack of human resources, skills and problems with data governance, were reported by European countries as main constraints to routine data linkage for public health surveillance and research.

Conclusions: Our study showed that the majority of European countries have integrated data linkage in their routine public health activities but only a few use AI. A sustainable national health information system allowing to link different data sources are essential to contribute to public health research. Moreover, it supports evidence-informed health policy making processes with an overview of various aspects affecting population health and may contribute to European pandemic preparedness.

Abstract citation ID: ckae144.682
Framework for approaching federated causal inference based on real-world observational data sources

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Context: Causal inference methods, generally requiring detailed individual information, allow us to evaluate public health interventions in real-world observational settings. When comparing interventions across borders and for this purpose leveraging distributed sensitive individual-level data, a federated approach can be aided. However, reusing such distributed data while maintaining privacy and interoperability, is a challenging endeavor.

Methodological framework: In the context of the BY-COVID project, a methodological framework to approach federated causal inference was published in October 2023. It is presented as a set of guidelines in the form several consecutive steps, starting with defining a research question, to building a causal model, translating the causal model into data requirements captured within a Common Data Model (CDM), generating synthetic data complying with the requirements captured in the CDM, and developing interoperable analysis scripts which can be distributed for deployment in different federated nodes. The proposed framework was built through implementing and combining existing methodologies and taking into account the principles of legal, organizational, semantic and technical interoperability.

Objectives: This presentation will provide an overview of the proposed framework, and its demonstration by performing an international comparison of the real-world effectiveness of SARS-CoV-2 primary vaccination campaigns in preventing infections at different federated sites. Challenges encountered (e.g. difficulties in complying with data requirements by linking heterogeneous local data sources) and lessons learned in the course of the demonstrator will be highlighted.

Implications: We aim to contribute to a public health research field where the rapid assessment of emerging population-health research questions (potentially feeding into evidence-based policy-making) is achievable, in that way contributing to European pandemic preparedness.

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Unraveling Social Health Inequalities during COVID-19 in Belgium: The Vital Role of Data Linkages

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Background: During the COVID-19 crisis, data linkages were set up to efficiently monitor the outbreak and identify vulnerable population groups. Yet, considerable technical, administrative and data security issues have hindered the effectiveness of data linkages as a critical instrument during public health emergencies. This workshop aims to provide a practical demonstration of the challenges encountered in a Belgian data linkage during the COVID-19 crisis, along with the strategies implemented to overcome these challenges. This case study offers insights into the development of a highly sensitive linkage between COVID-19 hospital data and information related to social and health use in Belgium.

Methods: The HELICON data linkage is developed at the individual level to investigate the risk of COVID-19 hospitalization and the influence of various social and biomedical factors during and after the crisis. Data are drawn from data collections on hospitalization from the COVID-19 health surveillance (Sciensano), on the socioeconomic and sociodemographic context (Statistics Belgium), and on healthcare use and reimbursement (InterMutualistic Agency).

Results: A representative case-cohort study is established comprising 1,149,264 million randomly selected Belgians and 44,508 hospitalized patients. Annual follow-up is scheduled over a four-year span, allowing the investigation of pre- and post-pandemic health data from July 2020 to January 2026.

Conclusions: The HELICON data linkage took 3.5 years to complete. Among the many challenges, we were faced with complicated approval procedures, ambiguous data security guidelines, unclear cost estimates, and technical issues related to the analysis environment. Building on these experiences, we explore the strengths and weaknesses of data linkages as a research instrument during the COVID-19 pandemic and discuss which lessons should be drawn to for the post-pandemic era.

11.B. Oral presentations: Innovations in AI for healthcare

Abstract citation ID: ckae144.684

The assessment of society's acceptance of artificial intelligence use in healthcare

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Background: We observe the surge of interest and application of artificial intelligence (AI) in various areas. AI use in healthcare and medicine is followed by society with interest; however, acceptance varies depending on the area of its application. This study aimed to understand the differences in acceptance depending on the type of solution and explain the factors influencing the attitude toward the use of AI in healthcare.

Methods: The data from the online survey was collected from a representative sample of 1109 adult Internet users in Poland. The respondents were asked about their acceptance of AI use for several purposes in healthcare. Based on the responses to these items, an ad-hoc score of AI acceptance in healthcare (AIAHC) was developed. The determinants of AIAHC were assessed with uni- (ULRM) and multivariable linear regression (MLRM) models.

Results: The highest acceptance of AI use was found for monitoring medication intake at home: mean (standard deviation, SD)-3.81 (1.39), the lowest for AI making decisions about the mode of therapy -2.78 (1.35). ULRMs showed that significant predictors of AIAHC were age, gender, chronic disease, vocational status, income, the use of the Internet (IU), and e-health literacy (eHL). In MLRM, only gender, vocational status, income, and eHL maintained a significant relationship with AIAHC. Males showed significantly higher AIAHC than females (B, 95%CI: 2.56, 1.42 - 3.71), and students had higher AIAHC than employees (B, 95%CI: 3.01, 0.14 - 5.89). Persons who refused to reveal their income demonstrated lower acceptance of AI use than those who revealed their income (B, 95%CI: -4.64, -6.54 - -2.74). Finally, greater eHL favored higher AIAHC (B, 95%CI: 0.46, 0.34 - 0.57).

Conclusions: Evidently, there is a hierarchy of potential areas of application in terms of society's acceptance. Improving eHL should exert a positive effect on the acceptance of innovative technologies, including AI, in healthcare.

Key messages:
- Citizens show moderate enthusiasm toward the broader use of AI in healthcare.
- E-health literacy exerts a positive effect on the introduction of AI-based solutions in healthcare.

Abstract citation ID: ckae144.685

Effect on comprehension of an AI patient-friendly hospital discharge letter: a quasi-RCT

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Background: During transition from hospital to home care, discharge letters serve as a bridge of information between hospital physicians, general practitioners, and patients. However, the complexity of these letters often hinders patient comprehension, leading to medication errors and adverse outcomes. We assessed the effect on patients' comprehension and satisfaction of using AI to transform discharge letters into patient-friendly versions.

Methods: An online quasi-randomized controlled parallel-group trial was conducted in Italy. A synthetic discharge letter for a chronic obstructive pulmonary disease patient was drafted. GPT-4 rephrased the letter into an easier-to-understand version. Participants were assigned to receive either the original or AI-generated letter and completed comprehension assessments and satisfaction survey.

Results: Out of 460, 166 participants received the original letter, and 175 the AI version. The AI group showed significantly higher comprehension scores (median 4;IQR 2-4 vs. 2; IQR1-2, $p < 0.001$) and outperformed the control group in understanding diagnosis, medications, and antibiotic instructions. Perceived satisfaction was higher in the AI group across all measures ($p < 0.001$). Health literacy was a good predictor of comprehension in both arms ($p = 0.013$; $p = 0.015$). Subgroup analysis revealed the AI letter nearly bridged the comprehension gap between non-healthcare individuals and healthcare professionals receiving the original letter.

Conclusions: AI-optimized discharge letters improved patient understanding, and satisfaction compared to traditional letters.

The study underscores the influence of sociodemographic factors like healthcare experience and health literacy on comprehension, advocating for adaptive communication strategies. These findings contribute to discussions about integrating AI in healthcare to develop patient-centered communication approaches.

Key messages:

- AI-generated patient-friendly discharge letters significantly improved comprehension and satisfaction compared to traditional letters.
- Integrating AI in healthcare communication can help bridge comprehension gaps and promote patient-centered care.

Abstract citation ID: ckae144.686

Capability of ChatGPT to support the screening process of scoping reviews: A feasibility study

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Background: The time-consuming screening phase in health-related evidence syntheses is increasingly supported by artificial intelligence (AI). However, scoping reviews have not benefited as much as systematic reviews from such AI tools as they utilize conceptual rather than keyword-specific search strategies to address broad research questions. Context-understanding chatbots based on large language models could potentially enhance the efficiency of scoping review screenings. This study evaluates the performance of ChatGPT against an open-access AI tool used for abstract screening in systematic reviews and the costs involved.

Methods: Leveraging data from a prior scoping review, we compared the performance of ChatGPT 4.0 and 3.5 against Rayyan, using human researchers' decisions as a benchmark. A random set of 50 included and 50 excluded abstracts was used to train Rayyan's algorithm and to develop ChatGPT's prompt. ChatGPT 4.0's evaluation was repeated after 5-7 days to assess response consistency. We computed performance metrics including sensitivity, specificity, and accuracy.

Results: ChatGPT 4.0 and 3.5 achieved 68% accuracy, 11% precision, 99% negative predictive value, and 67% specificity. Sensitivity was high at 88-89% for ChatGPT 4.0 and 84% for ChatGPT 3.5. ChatGPT 4.0 showed a substantial interrater reliability between the two evaluations and moderate reliability compared to ChatGPT 3.5. The cost of deployment varied, with Rayyan being free, ChatGPT 3.5 costing $9.06 and ChatGPT 4.0 $505.72.

Conclusions: Given the exponential increase in publications, effective mechanisms to support the screening phase of scoping reviews are needed. Our feasibility study using ChatGPT to decide on abstracts' inclusion or exclusion achieved good performance metrics. Given further positive evaluation, such chatbots might be incorporated in the standard screening process, possibly replacing a second screener, saving time and costs, and accelerating evidence synthesis.

Key messages:

- ChatGPT performs well in supporting screening for scoping reviews, outperforming a traditional AI tool at reasonable costs.
- Employing chatbots like ChatGPT could potentially cut costs and time in scoping reviews.

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Applications of AI in public health: Improving access to high-quality evidence syntheses

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Issue: Using the best available evidence is crucial for effective public health practice. Health Evidence^{TM} provides access to high-quality synthesis evidence relevant to public health. As the volume of peer-reviewed published literature grows, maintaining a database of this magnitude is increasingly resource-intensive. Artificial intelligence (AI) can be used to reduce the maintenance burden thereby ensuring decision makers can easily access high-quality synthesized public health evidence. These innovative strategies may be transferable to enhance efficient maintenance of large curated databases of published literature.

Description of the problem: In 2020, The Health Evidence^{TM} team conducted extensive training and testing of a supervised machine learning application to explore the accuracy of AI-assisted reference de-duplication and relevance screening. Finding promising results, the team implemented these AI-assisted strategies in August 2020. To assess the impact on the overall screening burden and time saved, implementation data was analyzed between November 2020 to 2023.

Results: For these 3+ years, AI assisted de-duplication and relevance screening was applied to 394,903 search results. The AI assisted de-duplication application removed 31% (n = 123,903) of references as duplicates. From the remaining reference sets (n = 272,253), the AI assisted screening application removed 70% (n = 190,966) of references as not relevant. Quality assurance spot testing found minimal classification errors (n = 1). In total, AI assisted approaches reduced the need for manual screening by 80%, saving approximately 626 hours of manual screening time over three years (or approximately 17 hours/month).

Lessons: With the reality of limited public health resources, continued access to high-quality synthesis evidence is critical. Innovative strategies using AI-assisted applications improves the feasibility of maintaining a large database of quality-appraised public health synthesis evidence.

Key messages:

- Access to high quality synthesis evidence is critical for evidence-informed decision making.
- Artificial Intelligence can be used to efficiently identify evidence syntheses relevant for public health.

Abstract citation ID: ckae144.688

Artificial intelligence to predict estimates of physical activity in small geographic areas

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Background: Artificial intelligence (AI) predictive models have been used to estimate the risk of a certain outcome occurring, using all available variables.

Methods: Using AI methods we have developed a small area estimation (SAE) technique to estimate the prevalence of leisure-time physical activity (LTPA), or who practices 150 minutes of LTPA per week, in small areas, in Belo Horizonte, Brazil, between 2009 and 2018, by the usage of k-means clustering. The VIGITEL, national telephone survey of Risk Factors for non-communicable diseases, was the main source. We applied available data to estimate prevalence of LTPA in 3300 census tracts, aggregated in 150 Primary Health Care (PHC) areas. The prevalence of PA was analyzed between two time periods, due to the low number of census tract interviews. With the available data, we estimate vulnerability clusters, derived from a Health Vulnerability Index (IVS), for the city of Belo Horizonte, according to socioeconomic, sanitation and health indicators, which measure the percentage of the population living in areas of vulnerability in the city. The index main purpose is to support public policy implementation.

Results: Nine clusters were identified according to the Silhouette coefficient analysis, i.e.: low (LO-0, LO-1), medium (ME-0, ME-1), high (HI-0, HI-1, HI-2) and very high) vulnerability (VH-0, VH-1. The prevalence of physical activity ranged from 23.7% (worst prevalence), in area of high vulnerability cluster (VH-1) to 45.5% in a low-risk cluster (LO-1) in period from 2009 to 2014. The prevalence of physical activity increased to 31.4% (high vulnerability cluster) to 52.81% (low-risk cluster) from 2014 to 2018.

Conclusions: The use of AI to estimate the prevalence of physical activity in small areas proved to be effective and highlighted important differences in the city. Thus, national surveys, with a small number of interviews per census sector, can be used to predict risks and health outcomes for small areas.

Key messages:

- The study highlights the importance of using artificial intelligence to predict estimates of risk factors for chronic non-communicable diseases in small geographic areas.
- The study showed less physical activity (PA) in areas of greater vulnerability. This can support health promotion policies and programs that encourage PA.

11.C. Oral presentations: Insights from global health and social dynamics

Abstract citation ID: ckae144.689

Document Indigenous Food Ingredients in China through Youth Participation

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Problem: Indigenous food systems can affect multiple aspects of Indigenous people's health and contribute to more efficient, sustainable, resilient, and equitable food systems. However, although tens of Indigenous groups live in China, very few projects have targeted their traditional or Indigenous food systems and ingredients.

Description of the problem: The main purposes include documenting traditional and Indigenous foods and medicine, building multiple social media for public impact, encouraging Indigenous youth participation, and advocating a more sustainable food system in China

Results: With the collaboration of Good Food Fund China, the project recruited 257 volunteers from 27 ethnic groups. The project collected 418 traditional food ingredients, produced 18 TikTok short videos to introduce Indigenous ingredients with the maximum number of views in a single post of more than 100,000, organized 16 Indigenous food culture knowledge webinars, translated 14 international case studies in Indigenous food systems with the permission of authors, and published 16 articles about Indigenous food ingredients and culture in the writing camp. The online lives also received more than a million total views. The results were presented at COP26 and COP28. More results will continue to be presented to the public through articles, books, academic papers, documentaries, short videos, online webinars, and other forms.

Lessons: The project demonstrates the potential to use online platforms to advocate and document sustainable food systems and biodiversity through youth participation. More similar projects can be designed in different parts of the world to support sustainable food systems transformation and ignite down-to-earth changes. However, funding and publication channels are still difficulties in the project.

Key messages:

- The first national level youth participation project to document Indigenous food biodiversity in China.
- Take advantage of social media and the internet for public impact.

Abstract citation ID: ckae144.690

Bias analysis on socioeconomic status and lung cancer in a pooled international case-control study

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Background: Low socioeconomic status (SES) groups showed increased lung cancer risks even after adjustment for smoking habits and other exposures to lung carcinogens. Although several biases were often indicated and discussed, only few studies quantified the impact of potential biases.

Methods: We conducted a bias analysis on the association of lung cancer and SES using data from the SYNERGY project, including 12 case-control studies with 18 study centres from Europe and Canada (16,550 cases, 20,147 controls). SES in quartiles was derived from the International Socio-Economic Index of occupational status (ISEI). Odds ratios (OR) with 95% confidence intervals (CI) were estimated by logistic regression adjusting for age, study centre, and smoking. In addition, we estimated natural direct SES effects and natural indirect smoking effects by inverse odds ratio weighting. In a multiple quantitative bias analysis, we considered impacts of misclassification of smoking status, selection bias, and unmeasured mediator-outcome confounding by a protective genetic factor, and created 95% simulation intervals (SI) by bootstrap. All analyses were stratified by sex.

Results: Adjustment for smoking as well as natural effects estimation showed that nearly half of lung cancer risks of lower SES groups in men and up to one third in women were attributable to smoking. Consideration of all types of bias reduced lung-cancer risks in the fully adjusted logistic regression models, with the strongest impact by selection bias: For the 4th versus 1st (highest) ISEI quartile OR decreased from 1.83 (1.69-1.98 CI) to 1.50 (1.30-1.73 SI) in men, and OR 1.48 (1.27-1.72 CI) to 1.20 (0.96-1.53 SI) in women.

Conclusions: Smoking is the main target for prevention of lung cancer, along with occupational and environmental exposures, in particular in lower SES groups. This finding remains, though our analysis revealed reduced lung-cancer risks of lower SES groups after multiple bias adjustment.

Key messages:

- Impact of potential biases was quantified in the association of SES and lung cancer.
- Lung cancer risks were partially attributable to smoking and multiple biases.

Abstract citation ID: ckae144.691

Adverse childhood experiences and age-trajectories of depressive symptom for middle and older ages

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Background: Adverse childhood experiences (ACEs) have lifelong impacts on health outcomes. Less is known about their effects on later outcomes (mental health). Moreover, associations of ACEs with age-trajectories of depressive symptoms and how they differ in different countries remain unclear. We investigated associations between ACEs and trajectories of depressive symptoms at mid-to-older ages in two distinct populations.

Methods: We used longitudinal data from English Longitudinal Study of Ageing (ELSA: n = 19602, ≥50y) and China Health and Retirement Longitudinal Study (CHARLS: n = 19561, ≥45y). Depressive symptoms were measured by Center for Epidemiologic Studies Depression scale at 10 waves (2002-2022) in ELSA and at 5 waves (2011-2020) in CHARLS. ACEs were retrospectively reported in both studies. We applied group-based trajectory modelling to identify distinct age-trajectories of depressive symptoms and multinomial regression to estimate associations between ACEs and trajectory groups.

Results: We identified three trajectory groups: in ELSA: high (12.3% in men and 14.7% in women), moderate (46.6% and 47.9%) and low (41.1% and 37.4%), and in CHARLS: high (9.3% and 13.2%), moderate (34.1% and 39.4%) and low (56.6% and 47.4%). Most ACEs were associated with increased risk of having moderate/ high trajectories of depressive symptoms after adjusting for other ACEs, sex, and childhood socioeconomic disadvantages. For example, for physical abuse, the adjusted relative risk ratio (RRRadj) for high and moderate trajectory groups was 2.09(1.99, 2.19) and 1.16(1.12, 1.20) respectively in ELSA. It was 1.34(1.23, 1.44) and 1.22(1.13, 1.32) in CHARLS. For domestic violence, the respective RRRadj was 1.90(1.65, 2.18) and 1.44(1.22, 1.70) in ELSA, and 1.33(1.22, 1.44) and 1.24(1.14, 1.35) in CHARLS.

Conclusions: ACEs have life-long effects on mental health at mid-to-older ages in both countries, highlighting the need of early intervention to improve mental health in later life.

Key messages:

- Our work considered the distinct patterns of age-trajectories of depressive symptoms for adults at middle and older ages, capturing the changing process of mental health problems in later life.
- We also investigated the associations between childhood factors and trajectory of depressive symptoms, which helped to improve mental health for older people under the situation of global ageing.

11.D. Scientific session: Participatory approaches and co-creation in complex interventions to reduce inequity in health

Abstract citation ID: ckae144.692

Organised by: Holbaek Hospital (Denmark), University of Copenhagen (Denmark)
Chair persons: Vivian Rueskov Poulsen (Denmark), Maria Marti Castaner (Denmark)
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Health disparities are linked to social inequalities, necessitating health researchers to address the health gaps that exist between different social groups, particularly in the realm of health interventions. This workshop delves into the significance of co-creation processes and participatory approaches in complex health interventions to reduce social inequities in health outcomes. Through empirical cases illustrating co-creation processes in intervention research, the workshop aims to enlighten the audience on the continuum of participatory approaches. The MRC/NIH framework of complex interventions highlights the importance of engagement with relevant stakeholders throughout the research phases to enhance the likelihood of developing or identifying interventions that can positively impact health outcomes. However, the extent and nature of stakeholder involvement may vary depending on the specific context and stage of the research. While stakeholder involvement has been a longstanding focus, the concept of co-creation, where stakeholders actively participate in the entire process of intervention development, implementation, and evaluation, has emerged more recently. This shift from creating interventions for the target population to collaborating with them in the intervention's creation has led to the emergence of more inclusive health interventions that are contextually relevant and tailored to the local settings where they are intended to create change. Yet, introducing participatory approaches in intervention research may raise new questions about decision-making and power dynamics. While interventions led solely by experts and researchers may overlook the empowerment and capacity-building potential among stakeholders and intervention sites, co-creation processes have the capacity to empower stakeholders and address health inequities effectively. However, challenges persist in ensuring equal collaboration between researchers and participants, especially in disadvantaged groups. This workshop aims to prompt reflection on ethical issues arising from traditional health intervention approaches and approaches to ensure participants' ownership of interventions when they are adapted in new contexts. Moreover, this workshop will discuss the design of participatory interventions: What methods can we use to co-create? What stakeholders to involve? At what stages of the intervention should co-creation occur?

The workshop program begins with an introductory presentation of participatory approaches and co-creation in health intervention research, with examples from a school-based intervention. Next, three empirical cases of co-creation processes introduced in interventions in different contexts are presented. Finally, the audience is invited to a take part in a discussion focusing on how participatory approaches among disadvantaged populations can potentially contribute to reduced social inequity in health.

Key messages:

- The involvement of stakeholders in the development, implementation and evaluation of health interventions can take many forms, and what is meaningful for the specific context needs to be considered.
- Co-creation approaches in health interventions empower participants and address unequal power dynamics between those who deliver and those who receive health interventions.

Abstract citation ID: ckae144.693
Enhancing Health Literacy Among Disadvantaged Youth: A Participatory Approach in School Settings

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Background: School-based health literacy interventions have the potential to significantly impact the health of disadvantaged youth. However, the effectiveness of such interventions varies. The aim of the 'health literacy among youth'-intervention was to improve the health literacy of disadvantaged youth in two school settings in Denmark.

Methods: The intervention began with identifying the health literacy needs of 128 students. Groups of teachers from each school participated in workshops facilitated by the research team to develop activities to address the specific needs of the students. Over the course of one school year (August 2023 to May 2024), these activities were implemented. Questionnaires were administered to students before, during, and after the intervention, and semi-structured interviews were conducted among teachers and students.

Results: Teachers at each school created activities aligned with the organizational structure and the needs of the students, focusing on occupational diseases and injuries, and physical activity and mental well-being, respectively. However, contextual factors such as time constraints, students' characteristics, and teachers' professional backgrounds and varying levels of motivation, influenced the implementation.

Conclusions: The intervention design offered flexibility in tailoring health literacy activities and their implementation to suit the unique contexts of the two schools. While the participatory approach facilitated targeted and organizationally aligned health interventions, its feasibility varied across contexts. Our findings highlight the importance of involving participants in developing health interventions to ensure relevance and alignment with specific needs of the target group.

Key messages:

- Despite contextual similarities, the outcome of participatory intervention approaches may vary across contexts.
- Co-creation contribute to health literacy interventions that are tailored the needs of the target group.

Abstract citation ID: ckae144.694
Co-creating the intervention 'MAMAACT' for improved care for pregnant migrant women in Denmark

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Background: The MAMAACT intervention was developed as a response to documentation of ethnic and social inequities in stillbirth in Denmark, despite free and universal access to antenatal care. The MAMAACT intervention aimed to reduce stillbirth in migrant families by improving communication about pregnancy complication during antenatal care.

Methods: The intervention consisted of a training program for midwives and health education materials. It was implemented at a structural level (training of midwives) and, through strengthened needs-based communication during antenatal care, the aim was to improve the health literacy of the women. 19 of the 20 Danish maternity wards participated in the study in 2018-19 and a comprehensive evaluation was conducted. The intervention was co-created with midwifery managers, midwives, and migrant women.

Results: The management and selected clinical midwives participated in the design of the midwifery training and the health education material as well as the intervention's implementation and recruitment strategies for the evaluation. As representatives of the target group, a partnership with the non-profit organization Bydelsmødre was initiated. Bydelsmødre trains migrant mothers living in socially deprived areas to help vulnerable migrant women. Evening sessions were conducted with a specific group of women in their community, where the intervention components, the recruitment to the evaluation, and the interpretation of evaluation findings were discussed. A significant contribution was a video explaining the migrant experiences of becoming a mother in Denmark used in the midwifery training. MAMAACT researchers were invited to present the evaluation at the annual assembly for Bydelsmødre organization in 2019.

Conclusions: The partnership with Bydelsmødre provided a strong voice for migrant women, enhancing engagement with the intervention, recruitment for the trial, and its real-world relevance.

Abstract citation ID: ckae144.695
Carving out space for co-creation in implementation of evidence-based mental health interventions

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Background: Mental health is identified as a pressing public health priority for European countries challenged by societal changes. The ADVANCE project aims to strengthen our understanding of mental health promotion and prevention in seven countries in Europe. In Denmark, the research project sets out to understand how WHO's stress management intervention Self Help Plus can be embedded within social and integration programmes for adults who have experienced migration.

Methods: We are using a common methodology across the 7 country projects oriented by co-creation with end users and relevant stakeholders to initially develop implementation scenarios and stigma reduction strategies. We will present findings from this process and reflect on the tension and potential of the co-creation methodology in the implementation of evidence-based mental health interventions.

Results: In the first project phase of problem analysis and co-creation, the project's society advisory group discussed 10 tailored intervention scenarios. Then, a Delphi survey and two rounds of scenario-based workshops with additional involvement of 16 end users/actors resulted in a final implementation scenario and stigma reduction strategies. We identified and reflected on questions around ownership of the project, boundaries of the proposed intervention, alignment of expectations, and intervention sustainability within the parameters of the ADVANCE project.

Conclusions: Even when interventions are pre-selected in response to funding calls, co-creation can facilitate the development of acceptable and sustainable implementation strategies. However, meaningful co-creation requires time, flexibility, and negotiation, which is not always guaranteed.

Key messages:

- Co-creation creates productive tension and potential for the implementation of ADVANCE.
- Space for co-creation was negotiated with collaborators to ensure meaningful engagement.

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An integrated work health intervention among cleaners in Denmark

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Introduction: Work-related diseases are increasing and considered a global health challenge. Meanwhile, work-related risk factors and diseases are not equally distributed across occupational groups. Previous work health interventions have not succeeded in reducing the prevalence of work-related diseases. Therefore, integrated approaches combining prevention of disease and promotion of health in work health interventions have been developed. The aim of the Integrated Approach to Health, Wellbeing, and Productivity at Work (ITASPA) intervention was to prevent work-related injuries and diseases and promote the health, safety and wellbeing of cleaners.

Methods: The ITASPA intervention was implemented at two Danish workplaces among cleaners. At each workplace a committee of employees was established to develop their own initiatives to promote the health of the workers. By use of the British Medical research Council's framework, a process evaluation was conducted. Qualitative data (focus group interview and field notes) and quantitative data (questionnaires) of participants evaluated the implementation.

Results: A total of 91 cleaners participated in health checks, and three workshops were held at each workplace. The development and implementation of activities was affected by mechanisms, such as lack of information about the intervention, new power dynamics, and lack of motivation for behavior changes, and contextual factors, such as many replacements, time pressure and absence of managers.

Conclusions: Integrated approaches in work health interventions among employees with short or no education may positively impact employees' health, wellbeing and safety if comprehensively implemented. However, attention should be drawn to interventions that adapt a participatory design, as unintended power dynamics may occur when employees are given the tasks of implementing behavior changes among colleagues. The role of managers to obtain successful implementation should be highlighted.

11.E. Scientific session: Integrating environmental and health sciences for addressing climate and urban challenges

Abstract citation ID: ckae144.697

Organised by: SItI Working group of Community mental health (Italy), EUPHA-URB
Chair persons: Giuseppe Di Martino (Italy), Laurent Chambaud (France)
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The escalating challenges posed by climate change and rapid urbanization demand an integrated understanding of how our natural and built environments influence health outcomes. This workshop aims to dissect the complex associations between the environment-both natural and constructed-and physical and mental health. The urgency and breadth of these issues necessitate a multidisciplinary approach, leveraging insights from environmental science, public health, and urban planning. The primary objective of this workshop is to elucidate the multifaceted relationships between environmental conditions and health, identifying actionable strategies to mitigate adverse health outcomes and enhance well-being. Specific goals include: i) to assess the current scientific evidence linking various environmental factors with health, highlighting the role of climate change; ii) to explore innovative methodologies for studying environmental impacts on health; and iii) to foster collaboration among researchers, policymakers, and practitioners for integrated health and environmental planning. Organizing this workshop presents several unique added values. First, it serves as a platform for experts from diverse fields to share findings and refine research methodologies. Second, by synthesizing current knowledge, the workshop will inform more coherent and science-based public health and urban policy. Lastly, it could facilitate networking among stakeholders, fostering collaborations that bridge gaps between research and policy implementation. The workshop is structured to ensure thematic coherence and maximally beneficial interactions among participants. Presentations will be grouped into four thematic blocks: 1. effects of climate change on health; 2. healthy design and public mental health; 3. Planetary health challenges to human health; 4. Climate change perception and mental health.

During the workshop, each speech will be built on the previous one in a sequential way. At the end of the workshop, audience members could join the discussion offering their point of view and directly interacting with the speakers. This workshop stands as a crucial endeavor to integrate diverse perspectives on how environmental conditions impact health and to catalyze significant strides in public health and urban planning. It promises to not only advance scientific understanding but also to translate this knowledge into practical, scalable solutions for health resilience in our communities.

Key messages:

- Urban health is foundational for sustainable cities, integrating health into all policies ensures inclusive, safe, resilient communities as outlined in SDG 11.
- Public health influenced by environmental and local government strategies highlights the need for multidisciplinary approaches to adapt urban planning and health policies.

Abstract citation ID: ckae144.698
Training and capacity building on the effects of climate change on health: a need to up-scaling

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The need to develop training on the effects of climate change on health is obvious, as the awareness on this topic is growing but the knowledge is not enough disseminated. ASPHER has taken several initiatives to address this subject. Among them, three activities deserve to be highlighted: in cooperation with the GCCHE, we have set up an intensive online course with a great success (nearly 1.000 participants in each of the 10 sessions). With the same partner we have conducted a survey in all SPHs members of our network, to be able to map training activities in the European Region and follow their development. We also work with the European Observatory on climate change and health to reinforce capacity building at European level.

But this is not enough and we have to go faster and further in several directions:

- by linking more closely multidisciplinary research and training, as knowledge is evolving quickly;
- by developing specific training for all public health trainees. This is why we need to incorporate this topic in public health core curriculum;
- by having some modules tailored to different publics: public health professionals, health professionals, but also local, national and European decision-makers and stakeholders.

To conduct these activities, we have to reinforce our different partnerships and create a powerful alliance at the European level.

Abstract citation ID: ckae144.699
Healthy design strategies to promote Urban Public Mental Health, according to the contemporary cities' climate resilience and the SDGs' challenges

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According to the "Urban Health Rome Declaration" at European meeting "G7 Health" that defines the strategic aspects and actions to improve Public Health into the cities, and referring to the Agenda 2030 in which the 11th SDG argue about "Sustainable Cities and Communities. Make cities and human settlements inclusive, safe, resilient and sustainable", one of the most expressive syntheses of the challenging relationship between urban planning and Public Health is stated by WHO (2016): "Health is the precondition of urban sustainable development and the first priority for urban planners". Referring to the Healthy Cities & Urban Health definitions, we can consider Public Health not merely an aspect of health protection and promotion, but an individual and collective condition, strongly influenced by the environmental context and by the strategies implemented by local Governments. The "Health in All Policies" strategy, clearly underlines how health doesn't depend only on the supply of healthcare services, but also, on the quality of outdoor and indoor living environments. Aim of the Presentation 3 is the share the findings of a literature review about the link between the urban contexts' morphological and functional features; the results are divided into: 14 Health Outcomes, representing the main Non-Communicable Diseases (NCDs) whose come from the urban environment's quality and by the adoption of healthy lifestyles; 8 types of Environmental Risk Factors (Urban Heat Island Effect; soil/air/acoustic/light pollution; vehicular traffic; Safety & Security; weak attractiveness of places); and 14 Healthy Urban Planning Strategies (green/blue/grey infrastructures; biodiversity protection; adverse meteoric events management; public transport systems; vehicular traffic reduction; pedestrian and cycling paths; social and functional mix; urban solid waste's management; renewable energy and efficiency; outdoor spaces lighting; Design for All).

Abstract citation ID: ckae144.700
Planetary Health: a public health answer to climate change and other Anthropocene challenges

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Although in the last century, humanity achieved extraordinary outcomes in terms of health, social and economic improvements, the Earth ecosystems around us suffer of high levels of degradation. This issue poses our recent public health and development gains at risk. The Anthropocene, a new geological era we are living in since mid 20th century, is indeed characterized by humanity's dramatic impact on Earth's biophysical conditions. Planetary Health is a relatively new field, oriented to solutions, based on transdisciplinarity and social movement, focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth. In this presentation, a brief overview of the main issues related to the Anthropocene in the public health perspective will be provided and new tools for the analysis of planetary health challenges will be proposed, citing relevant case studies for discussion.

Abstract citation ID: ckae144.701
Climate change perception and mental health: the public health perspective

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Climate change is increasingly recognized as a critical environmental stressor with significant psychological impacts. Despite consolidated evidence describing the impact of various aspects of climate change on numerous physical and mental health outcomes, a novel and burgeoning area of research is now assessing the association between climate change perception/awareness and health. In fact, the increasing awareness of climate change and its impacts on natural and human systems is not only a matter of environmental concern but also of significant psychological importance. Awareness of climate change involves understanding its causes, foreseeing its long-term global and local impacts, and recognizing the limited window available for effective mitigation and adaptation. This level of awareness, while necessary for proactive behavior, has been linked to various psychological responses, including chronic stress, anxiety, and feelings of helplessness and despair, collectively referred to as 'eco-anxiety.' The association between climate change awareness and mental health is complex and mediated by various individual and social factors. As the reality of climate change becomes more integrated into the public consciousness, it is imperative to address the accompanying psychological impacts. In this presentation, the main issues related to climate change perception/awareness and mental health will be discussed through the lens of public health.

11.F. Scientific session: If we build it, will they come? Evaluation of citywide park redesign and renovation in NYC

Abstract citation ID: ckae144.702

Organised by: Center for Systems and Community Design CUNY (USA)
Chair persons: Terry Huang (USA), Katarzyna Wyka (USA)
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Urban environments, such as parks, play a crucial role in shaping the health of their residents. However, the relationship between parks and health remains inconclusive. This workshop will present findings from the Physical Activity and Redesigned Community Spaces (PARCS) Study that examined the community health impacts of the Community Parks Initiative (CPI), a citywide park equity initiative of the New York City Department of Parks and Recreation (NYC Parks) that led to citywide park redesign and renovation across 67 low-income neighborhoods in NYC. Using a quasi-experimental design with socio-demographically matched control parks, we evaluated longitudinal changes in park use, physical activity, and psychosocial well-being as a result of CPI. There will be a total of 3 presentations. The first presentation will focus on the impact of CPI on park use before and after park renovation, relative to control parks, using data collected from the System for Observing Play and Recreation in Communities (SOPARC). Results showed that CPI led to a significant net increase in park use, especially among adults. The second presentation will report on changes in perceived stress pre- and post-renovation among adults. Results showed that a greater decrease in perceived stress was associated with a sustained high or increased park use frequency in the context of high-quality CPI intervention parks. In contrast, the same association was not found in lower quality control parks. The third presentation will showcase a study that demonstrated a significant increase in children's physical well-being, a dimension of quality of life, at CPI vs. control sites. The analysis also showed that children in the lowest socio-economic group might have benefited the greatest from CPI. PARCS is one of the largest intervention studies on the effects of park renovation on health. This workshop will engage participants in considering how these insights can be translated into actionable programs and policies in service of community health and health equity. Findings from PARCS will help inform future public health and urban planning interventions in the use of the built environment to promote population well-being.

Key messages:

- Urban park renovations may contribute significantly to community health, demonstrating a vital link between the built environment and public health.
- Investments in green spaces may enhance the physical and mental well-being of low-income urban communities, promoting social equity.

Abstract citation ID: ckae144.703

Association of park renovation with park use in New York City

Hanish Kodali

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Background: Equity-driven citywide park redesign and renovation, such as the Community Parks Initiative (CPI), has the potential to increase park use and opportunities for physical activity in underserved communities. The objective of this study was to evaluate changes in patterns of park use following park redesign and renovation in low-income New York City (NYC) neighborhoods.

Methods: The Physical Activity and Redesigned Community Spaces study was a prospective quality improvement pre-post intervention study design with 33 intervention and 21 matched control neighborhood parks. Data were collected at baseline (prerenovation) and 2 follow-up points (3 months and 1-year post renovation) between 2016 to 2022 summers. Main outcomes encompassed park use and physical activity levels assessed using the well-validated System for Observing Play and Recreation in Communities. Park use was quantified by total number of park users, categorized by age group ($\leq$20 years vs $\geq$ 21 years), sex, and physical activity level (sitting or standing vs walking or vigorous activity). Changes in outcomes between groups were compared via the generalized estimation equation.

Results: A total of 28,322 park users were observed across 1,458 scans. At baseline, 59.7% were 20 years or younger, 46.3% were female, and 43.8% were sitting or standing. Intervention parks showed more net park users compared with control parks from baseline to the final follow-up (difference-in-difference relative rate ratio, 1.69 [95% CI, 1.22-2.35] users/scan). The association was driven by a significant increase in adult users at intervention parks and an overall decrease in all users at control parks.

Conclusions: In this quality improvement study, park redesign and renovation were positively associated with park use in low-income neighborhoods. However, park renovations may need to be accompanied by other programmatic strategies to increase physical activity.

Abstract citation ID: ckae144.704
Frequent park use is associated with reduced stress after citywide park renovation

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Background: Quality parks have the potential to promote well-being in urban communities through reduced stress. The impact of parks on stress may be greater among individuals who use parks frequently. Using pre- and post-renovation data from the Physical Activity and Redesigned Community Spaces (PARCS) study, we evaluated the role of citywide park renovation in the association between park use and perceived stress.

Methods: PARCS evaluated the impact of the NYC Community Parks Initiative, which led to the renovation of dozens of previously disinvested neighborhood parks throughout NYC. Longitudinal data on park use and the Perceived Stress Scale (PSS) from 162 adults residing within 0.3 miles of 31 renovated park sites and 151 adults living near 21 socio-demographically matched control parks were analyzed. Linear mixed-effects difference-in-difference (DID) regression was used to assess the association between park use frequency at follow-up and change in PSS over time in intervention vs. control conditions (2- and 3-way interactions). Models were adjusted for age, education, children in household, marital status, and public housing.

Results: Both intervention and control groups experienced significant declines in PSS over the study period (2016-2022) [Intervention= -2.88 (95% CI -4.10,-1.67), Control=-3.16 (95% CI -4.43,-1.90)]. We found no net difference in change in PSS between the intervention and control groups overall [DID=0.28 (95% CI -1.47,2.03)]. However, there was a significant 3-way interaction of time x park use x intervention ($p < 0.05$). Among participants in the intervention group, those who had high park use at follow-up experienced a significantly larger decrease in PSS compared to those with low park use [DID=-2.92 (95% CI -5.34,-0.49)]. Within the control group, there was no difference in PSS change by park use frequency [DID=1.05 (95% CI -1.48,3.59)].

Conclusions: Park renovation was a pre-condition to the benefit of frequent park use on stress reduction.

Abstract citation ID: ckae144.705
Impact of park renovation on children's quality of life in New York City

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Background: Despite increasing interest in the role of parks on children's health, research on the impact of park interventions is limited. This study uses a quasi-experimental pre-post design with matched controls to evaluate the effects of park redesign and renovation on children's quality of life (QoL) in underserved New York City (NYC) neighborhoods with predominantly Hispanic and Black populations.

Methods: Utilizing longitudinal data from the Physical Activity and Redesigned Community Spaces (PARCS) Study, we examined the parent-reported QoL of children aged 3-11 years living within a 0.3-mile radius of 13 renovated parks (N = 201) compared to 11 (N = 197) control parks before and after the park intervention. QoL was measured using the modified KINDL questionnaire, a health-related QoL scale that assessed children's physical and emotional well-being, self-esteem, and well-being in home, peer, and school settings. A difference in difference (DID) linear mixed model was used to compare QoL between intervention and control groups.

Results: We found a significant improvement in the physical well-being subscale of KINDL in the intervention vs. control group (DID=6.35, 95% CI = 0.85-11.85, p = 0.024). The differential improvement was strongest among girls (DID=7.88, p = 0.023) and children with parents in the lowest socioeconomic background (education high school or less DID=8.38, p = 0.024; Not employed DID=7.53, p = 0.048; Single/Widowed/Divorced DID=8.67, p = 0.025). No significant differences were found in other subscales.

Conclusions: Our study indicated a beneficial impact of improving park quality on the physical well-being of children residing in underserved neighborhoods. These findings support investments in neighborhood parks to advance health equity.

11.G. Pitch presentations: Cancer screening / Nutrition

Abstract citation ID: ckae144.706
Clinical recommendations for polygenic risk score-enhanced breast cancer screening: Can.Heal project

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Background: The application of polygenic risk score (PRS) in breast cancer (BC) screening presents promising opportunities. Developing recommendations for future use and research on this topic is a key focus of the EU4Health project: Building the EU cancer and public health genomics platform (Can.Heal). We aim to provide these recommendations based on the analysis of available evidence through a transparent and rigorous development process.

Methods: The recommendations adopt the GRADE evidence to decision methodology, leveraging an evidence review team and a multidisciplinary panel of nine experts. A systematic review is being conducted to evaluate the evidence for PRS in BC screening, in the domains of benefits and harms, acceptability, feasibility, equity and cost-effectiveness.

Results: Regarding benefits and harms of adding PRS to BC standard screening, we identified 63 relevant articles. Forty-five (71%) discussed benefits, while 14 (22%) addressed harms. Forty-two (67%) were observational studies, 18 (28%) modeling studies and 1 non-randomised control trial (2%) that examined the diagnostic accuracy of PRS-enhanced screening for relative BC risk prediction using measures such as net reclassification index and area under the curve. Lastly, two modeling studies (3%) assessed the clinical utility of PRS-enhanced screening in terms of life years gained, BC deaths averted. The other domains are under examination. The panel convened to redefine the research question and outcomes of interest and will reconvene to assess the certainty of evidence collected, and subsequently to draft recommendations.

Conclusions: The integration of PRS into BC screening shows potential benefits in improving risk prediction. Ongoing trials, such as Wisdom and MyPEBS, are studying the clinical utility of integrating PRS in BC screening. The approach taken by the Can.Heal aims to ensure that the recommendations are based on a thorough and balanced evaluation of the available evidence.

Key messages:

- The Can.Heal project aims to formulate policy and research recommendations for breast cancer screening using PRS through a thorough evidence review.
- Upcoming PRS recommendations rely on expert opinion and modeling studies.

Abstract citation ID: ckae144.707
Vaginal self-sampling for HPV in the context of cervical cancer screening

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Background: Effective cervical cancer screening programme has the potential to improve disease outcomes, yet women's participation rates in Latvia remain suboptimal. Utilizing vaginal self-sampling for HPV, a convenient method, has demonstrated efficacy in boosting participation in under-screened populations. We analysed sociodemographic factors, as well as health behaviours with the preference for vaginal self-sampling procedures for early detection of cervical cancer.

Methods: Cross-sectional survey (2021-2022) included 1313 women in Latvia. Sampling was done in the colposcopy clinic and among GP practices. In the univariate analysis cervical cancer examination preference (self-test or by a physician) was analysed in association sociodemographic factors, participation in the screening, HPV status, study group, and health-related behaviour. Financed by "Internal consolidation of RSU and external consolidation of RSU with LSPA" (No. 5.2.1.1.i.0/2/24/I/CFLA/005), The EU Recovery and Resilience plan and the state budget, Grant Nr. RSU-PAG-2024/1-0016.

Results: 48.6 % (n = 538) of the women would prefer to use a vaginal self-test. Higher odds of the vaginal self-test preference were observed among Latvian (OR = 1.4 (1.1-1.8) vs other nationality women, but no other sociodemographic factors showed statistically significant associations. Women in the colposcopy study group (vs GP practices) were more likely to utilize self-sampling (OR = 1.8 (1.4-2.5). Non-participation in cervical cancer screening was related to 2.4 (1.6-3.6) higher odds of self-test preference, but knowledge about screening was related to 1.5 (1.1-2.0) times higher odds. Women who were HPV-negative were more likely to prefer vaginal self-test for HPV (OR = 1.4 (1.1-1.8) in comparison to HPV-positive women. Health-related behaviour did not show any associations.

Conclusions: Vaginal self-test for HPV can be effectively used to reach under-screened populations and enhance cervical cancer screening coverage.

Key messages:

- The implementation of vaginal self-sampling for HPV testing has the potential to improve participation rates in cervical cancer screening programs among under-screened populations.
- Outreach and education activities tailored to specific target groups in population could enhance level of the cervical cancer screening uptake.

Abstract citation ID: ckae144.708
Urinary artificial sweeteners and breast cancer risk in women from the Moli-sani Study

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Background: Artificial sweeteners (AS) are chemical substances developed by the food industry to reduce sugar and calories while maintaining sweetness. Cohort studies suggested an increased risk of certain cancers, including breast cancer (BC), associated with AS intake, however evidence exclusively relied on self-reported dietary data rather than objectively measured AS. We examined the association of urinary biomarkers denoting AS intake with BC risk in women from the large Moli-sani Study.

Methods: Using a case-cohort design, a sample of 987 middle-aged women (mean age 55±12 y) was randomly selected as sub-cohort and compared with 273 women with incident BC (26 of them also belong to the sub-cohort). A total of 6 commonly used AS (i.e. aspartame, acesulfame, saccharine, sucralose, cyclamate, and steviol glycosides) were measured through liquid chromatography-mass spectrometry in urinary samples (creatinine-adjusted concentrations; µg/mg) collected at baseline (2005-2010). The multivariable hazard ratios (HRs) were estimated through Cox regression models using the Prentice method, where each AS was dichotomized as absence/presence, independent of concentrations.

Results: The main urinary AS was saccharine (E954), contributing to 71% of total AS, followed by steviol glycosides (E960;11%). During a median follow-up of 13.2 y we identified 38 premenopausal and 235 postmenopausal incident BC cases. In multivariable-adjusted Cox analyses, none of the individual AS was associated with overall BC risk, nor was the total urinary AS (HR = 0.93; 95%CI 0.63-1.37 for 1-unit increment). Compared to absence, presence of sucralose (E955) in urine was linked to premenopausal BC (HR = 4.23: 95%CI 1.23-14.51; p = 0.022).

Conclusions: Urinary artificial sweeteners were not associated with BC risk. However, sucralose presence in urine was linked to a higher risk of premenopausal BC. Prospective, dose-related studies with larger sample size are warranted to possibly confirm our findings.

Key messages:

- The presence in the urine of commonly used artificial sweeteners was not associated with breast cancer risk.
- Presence of urinary sucralose was linked to higher risk of premenopausal breast cancer.

Abstract citation ID: ckae144.709
Meal timing and risk of metabolic syndrome in the prospective French NutriNet-Santé biobank

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Background: Circadian rhythm disruption has been associated with higher risks of cardiometabolic diseases and several cancers. Mistimed eating patterns can desynchronize circadian rhythms, and could therefore influence metabolic health. However, long-term associations between meal timing and the metabolic syndrome remain unclear. The aim of this study was to evaluate the prospective associations between meal timing and the risk of developing metabolic syndrome.

Methods: We used measured biological and clinical data from 16 353 adults (51 years ± 13.72) in the NutriNet-Santé biobank (2011-2014), and examined the associations between meal timing, assessed with repeated 24-hour dietary records during the first two years of follow-up (starting 2009), and the risk of metabolic syndrome, using modified Poisson regression models, adjusted for main confounders.

Results: At the end of follow-up (mean 2.1 years (SD = 1.2)), a later timing of the first meal of the day was associated with a moderately higher risk of metabolic syndrome (1,788 cases; RR per 1-hour delay = 1.05; 95% CI: 1.00-1.10). However, after adjusting for overall diet quality, this association was attenuated (RR: 1.04; 95% CI: 0.99-1.09). Overall, we found no evidence of an association between the occurrence of metabolic syndrome and the time of the last meal (RR: 0.99; 95% CI: 0.95-1.05), the number of eating occasions (RR: 1.00; 95% CI: 0.98 - 1.03), or night-time fasting duration (RR: 1.03; 95% CI: 0.99 1.07).

Conclusions: In this large prospective study, timing of the first meal showed modest associations with metabolic syndrome. Further investigations using a longer follow-up are needed to elucidate how meal timing influences metabolic health.

Key messages:

- Beyond the nutritional quality of meals, meal timing, particularly time of first meal, may be an accessible prevention strategy for metabolic health.
- More largescale prospective and intervention studies are needed to better understand the links between meal timing and metabolic health.

Abstract citation ID: ckae144.710
Exposure to food additive mixtures and type 2 diabetes risk in the NutriNet-Santé cohort

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Background: So far, the safety evaluation of food additives has been performed substance by substance, while in real life, millions of individuals are exposed to mixtures of food additives daily. According to preliminary experimental data, some of these chemicals, alone and/or in synergy are suspected to impact metabolic health. The objective of this study was to investigate for the first time the associations between exposure to mixtures of food additives and type 2 diabetes (T2D) risk in a large prospective cohort of French adults.

Methods: Participants (n = 108,783, 79.2% women, mean age=42.4 years, SD = 14.6) from the NutriNet-Santé cohort (2009-2024) completed repeated 24h-dietary records, detailing industrial product brands. Additive exposure was assessed using composition databases and laboratory assays. Five mixtures of additives were identified through non-negative matrix factorisation (NMF). Associations between these mixtures and the risk of T2D were characterised using multivariable proportional hazards Cox models adjusted for known risk factors.

Findings: 1115 participants were identified with T2D during follow-up. Two additive mixtures were associated with increased T2D risk. The first mixture included higher exposure to modified starches E14xx, pectins E440, guar gum E412, carrageenan E407, and polyphosphates E452 (HRper 1SD increment=1.11 [1.05-1.18]), $p < 0.0001$). The second mixture comprised citric acid E330, sodium citrates E331, phosphoric acid E338, sulphite ammonia caramel E150d, acesulfame-K E950, aspartame E951, sucralose E955 and arabic gum E414 (HR1SD=1.13 [1.08-1.18]), $p < 0.0001$).

Interpretation: This large prospective cohort study revealed direct associations between T2D risk and exposure to two food additive mixtures. Molecular epidemiology and experimental studies will be necessary to depict underlying mechanisms and potential cocktail effects.

Key messages:

- Consumed together, widely used food additives may contribute to T2D aetiology, shedding light on the detrimental impact of highly processed foods on metabolic health.
- This study highlights positives associations between T2D risk and exposure to two food additive mixtures.

Abstract citation ID: ckae144.711
Can mobile apps facilitate more sustainable and healthier diets? A systematic review

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Background: One third of all greenhouse gas emissions come from the food system, and current diets are insufficient to meet environmental and public health goals. Digital health apps offer promise to change behaviour, but little is known about the effects of different types of apps. This systematic review assessed the effectiveness of mobile apps in facilitating dietary changes across adults from high-income countries.

Methods: Seven electronic databases (MEDLINE, EMBASE, PsycINFO, CINAHL, Global Health, GreenFILE, Web of Science), two trial registries (Cochrane Trials and Clinicaltrials.gov), and Google were systematically searched for intervention studies aiming to facilitate dietary change. Interventions were characterised by their use of messaging (e.g., motivational statements) and personalised features (e.g., tailored nutrition advice). Outcomes for three food groups were synthesised through meta-analysis.

Results: Of the 5261 identified records, 21 met the eligibility criteria and were included. Interventions, recruiting 73,973 participants in total, lasted from three days to six months. Overall positive changes were observed in daily servings of fruit and vegetables (0.59, 95% CI 0.20, 0.99), legumes (0.05, 95% CI 0.01, 0.08), and meat (-0.14, 95% CI -0.23, -0.05), remaining significant after removing non-randomised controlled trials. Changes in fruit and vegetable intake were more pronounced for users of apps with messaging components (0.75, 95% CI 0.18, 1.32) and personalisation (0.67, 95% CI 0.16, 1.19), and meat intake changes were larger for messaging-based apps (-0.21, 95% CI -0.27, -0.15) than apps without these features.

Conclusions: Our findings suggest to practitioners and policymakers that mobile apps could be a useful and innovative way to change behaviour. Within a wider behaviour change approach, apps could help facilitate diets that meet food-based dietary guidelines, are predominantly plant-based, and are protective of environmental and human health.

Key messages:

- Overall, the results from 21 studies showed positive dietary changes towards more fruits, vegetables, and legumes and less meat consumption following the use of mobile apps.
- Apps including messaging and personalised elements appeared most effective and may be important for driving changes in fruits, vegetables, and meat consumption.

Abstract citation ID: ckae144.712
What is driving food insecurity risks in UK households with children?

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Background: Food insecurity is a global public health issue, disproportionately affecting households with children in the UK. Despite increased research attention, there remains a gap in understanding why prevalence of food insecurity is higher in this demographic. This study aims to address this gap.

Methods: Utilising data from the 2021/22 and 2022/23 Family Resources Survey, an UK annual cross-sectional survey, we investigate the association between sociodemographic and economic factors, and the risk of food insecurity among households with children. Logistic regression analysis was used, with food security treated as a binary outcome variable. Control variables included receiving means-tested benefits, disabilities in a household, region within the UK, and the ethnicity, highest education level and marital status of the household reference person. A total of 41127 households were included, with 10137 being households with children.

Results: Our preliminary findings reveal stark inequalities, with 12.0% of households with children experiencing food insecurity, compared to 6.4% of households without children (p-value for comparison <0.0001). After adjusting for control variables, the odds of food insecurity among households with children was 1.40 (95% CI: 1.27, 1.54) compared to households without children. Adding equivalised household income after housing costs attenuated the relationship but households with children remained at significantly higher odds of food insecurity (OR: 1.32 (1.20, 1.45)).

Conclusions: This preliminary analysis demonstrates that, after adjusting for control variables and equivalised household income after housing costs, having children in a household is still associated with a higher risk of food insecurity. This underscores the need to understand the mechanisms underlying this relationship further. Such insights are essential for informing targeted policies and interventions aimed at mitigating food insecurity among households with children.

Key messages:

- Having children independently increases the risk of food insecurity in households in the UK.
- Moving forward, our aim is to understand the mechanisms underlying the relationship between households with children and food insecurity.

Abstract citation ID: ckae144.713
Impact of the COVID-19 pandemic on food choices among the working-age adult residents of Lithuania

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Background: The COVID-19 pandemic affected the nutrition of various populations. Assuming that the majority of the population of working-age residents of Lithuania know healthy nutrition recommendations and that food selection criteria might serve as an indicator of the following them, we aimed to assess the food selection criteria during and after the COVID-19 pandemic among working-age adult residents of Lithuania.

Materials and methods: Three cross-sectional surveys among working-age adult residents of Lithuania were carried out: in 2019 (before the pandemic), in 2021 (during the pandemic), and in 2022 (after the pandemic). In 2019, this study included 1007 residents, 1600 residents were surveyed in 2021, also, 1600 residents were surveyed in 2022. Distribution of the respondents by food selection criteria was compared between the samples according to gender, age, marital status, education level, place of residence, employment, income.

Results: The COVID-19 pandemic affected the food choices of Lithuanian residents ($p < 0.05$). In 2019, products' benefits for health criterion was in the third place when choosing foods. It was indicated by 22% of the respondents. In 2019, the most prevalent criterion for selecting foods was taste. It was indicated by 37% of the respondents. The second most prevalent food selection criterion was the price. It was indicated by 24% of the sample. In 2021 selection of foods because of products' health benefits became the most prevalent and accounted for 31% of the sample. In 2022, it returned back to the prepandemic level and accounted for 19% of the sample. In all social and demographic groups changes in food selection criteria remained as well ($p < 0.05$).

Conclusions: The COVID-19 pandemic had a positive impact on the food choices of working-age adult residents of Lithuanian. Changes of food selection criteria were observed within the different groups of gender, age, marital status, education level, place of residence, employment, income.

Key messages:

- The COVID-19 pandemic had a positive impact on the food choices of working-age adult residents of Lithuanian.
- Less than a year after the pandemic food selection according to its health benefits rapidly decreased and returned back to the prepandemic level.

11.H. Round table: Making the case for public investment in health

Abstract citation ID: ckae144.714

Organised by: European Observatory on Health Systems and Policies
Chair persons: Rebecca Forman (UK), Jonathan Cylus (WHO)
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Across the European Union (EU), public budgets are facing pressures and policy makers are becoming increasingly concerned about how to adequately and sustainably fund their health systems to keep up with need and demand. In recognition of this, in 2022 a Technical Support Instrument (TSI) project funded by the Directorate-General for Structural Reform Support (DG REFORM) was launched together with three European Union (EU) Member States with the goal of strengthening capacity to make the case for public investments in health. To support these efforts, the European Observatory on Health Systems and Policies (OBS) conducted an exercise to map relevant analytical approaches and tools for making the case for public investment in health. As a contribution to this workshop, OBS will present the key results from this exercise, including a framework that has been designed to support health policy makers, advisors and advocates by providing five key lines of argument and selected examples of tools, data, indicators and methods that can be used to successfully make the case for public funding for health. This will be complemented by two presentations on country experiences (in Austria and Malta) of navigating negotiations between health and finance and securing public funding for health. These will highlight both successes and challenges in practice. By looking at examples from MS on making the case for public investment in health, these presentations will frame the panel discussion that follows. The chairs will facilitate a discussion closely engaging the audience on how to build better narratives and exchanges which facilitate trust and alignment between health and finance stakeholders in the pursuit of strengthening the capacity to make the case for public investment in health. The workshop will highlight five lines of argument and practical examples of tools, data, indicators and methods that can be used to support the case for public investment in health. It will also focus on the important enablers (e.g. cooperation, communication, transparency, accountability, trust) for successful budget negotiations and discuss how these can be facilitated.

Key messages:

- Budget cases for public funds for health tend to be most successful when they align well with the goals and objectives of finance stakeholders, and certain narratives and arrangements can foster this.
- Data and evidence can help steer decision makers to make good choices (or at least avoid bad ones), but other factors serve as the fuel to push the budget case for health forward successfully.

Speakers/Panelists:

Rebecca Forman
European Observatory on Health Systems and Policies, London, UK
Jonathan Cylus
European Observatory on Health Systems and Policies, London, UK
Stefan Eichwalder
Ministry of Health, Vienna, Austria
Neville Calleja
Department of Health Information and Research, G'Mangia, Malta

11.I. Oral presentations: Prevention and management of infectious diseases

Abstract citation ID: ckae144.715

Determinants of tuberculosis site among 1035 cases in Frankfurt, 2008-2023: does lineage matter?

Natalia Rachwal

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Extrapulmonary tuberculosis (EPTB) presents with nonspecific symptoms which can pose a diagnostic challenge. Currently, there are no clear predictors for EPTB. We aimed to identify these factors for better diagnosis and disease control. We included tuberculosis cases reported in Frankfurt from 2008-2023, with available clinical and whole genome sequencing data. According to WHO criteria, cases with pulmonary or combined pulmonary and extrapulmonary symptoms were categorised as pulmonary tuberculosis, while exclusively extrapulmonary symptoms were categorised as extrapulmonary tuberculosis. We assessed the association between EPTB and M. tuberculosis lineage, comorbidities and demographic characteristics using logistic regression, calculating crude and adjusted odds ratios (aOR). Of the 1035 reported tuberculosis cases, 272 had exclusively extrapulmonary disease and 136 had both pulmonary and extrapulmonary disease. In the univariable analysis, lineages 1 and 3 were significantly associated with extrapulmonary disease compared to lineage 4. However, this association was not observed in the multivariable analysis. In the final regression model, females were more likely to develop EPTB than men (aOR: 1.65, CI: 1.19-2.27). The odds of developing extrapulmonary disease were higher among patients born in the South-East Asian (aOR: 6.48, CI: 3.72-11.43) and Eastern Mediterranean (aOR: 5.54, CI: 3.41-9.11) than in other regions. Among the comorbidities, diabetes was found to be negatively associated with extrapulmonary disease (aOR: 0.50, CI: 0.26-0.91). Our results indicate that host factors such as geographic origin and sex are stronger predictors for extrapulmonary presentation of tuberculosis than a specific lineage. We recommend increasing physicians' awareness of the nonspecific presentation of EPTB and adapting screening programmes, particularly for patients from South-East Asian and Eastern Mediterranean regions to foster more effective tuberculosis control measures.

Key messages:

- Our study highlights the importance of considering host factors in predicting extrapulmonary tuberculosis, indicating their stronger influence compared to specific M. tuberculosis lineages.

- Increased physicians' awareness of the nonspecific symptoms of EPTB and targeted screening programs for high-risk populations are crucial for enhancing tuberculosis control measures.

Abstract citation ID: ckae144.716
The 2021-2023 Italian influenza pandemic plan: a critical evaluation of its regional implementation

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Background: Influenza pandemic preparedness plans should be adopted, regularly updated in every country, and comply with international guidelines to ensure proper management of public health emergencies. In Italy, each region develops its pandemic plan based on a National Plan. This study, conducted within a project funded by the Italian Ministry of Health, aims to assess the level of compliance of these plans with the national guidelines.

Methods: The assessment was based on a checklist of 192 items reporting the actions prescribed by the national plan. The items were divided into macro-areas by pandemic phase: general, alert, inter-pandemic, pandemic, and transition. The compliance regarding the presence and contextualization of each item in the regional plans was evaluated. Each macro-area was further assessed for easy identification of actions, congruence with the National Plan, and contextualization in the regional healthcare system. Some analyses grouped the regions into North, Centre, and South/Islands.

Results: Some macro-areas, such as 'Communication' and 'Prevention and Control measures,' showed some weaknesses in all phases, especially in the northern regions, which reached levels of full compliance below 50%. Central regions were highly compliant in almost all macro-areas, especially in 'Strategy/Governance' (100%), 'Supplying' (75-100%), and 'Surveillance' (75-100%). Overall, contextualization was the weakest aspect in all phases, while easy identification and congruence were mainly better achieved. Only three regions fully met all the assessed parameters.

Conclusions: A strict surveillance and monitoring process of planned activities is necessary to strengthen the country's preparedness. This study identified critical issues and key areas for improvement at the regional level. This might allow us to verify the correct implementation of national guidelines and define the best strategies for improving readiness for public health emergencies in the future.

Key messages:
- Implementation of the Italian influenza pandemic plan was uneven across regions.
- Identification of lacking areas of the regional implementation is essential to improving national preparedness.

Abstract citation ID: ckae144.717
Relationship of serum vitamin D levels with atrial fibrillation incidence: The HUNT Study

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Background: Evidence on the association between serum vitamin D levels and incidence of atrial fibrillation (AF) was inconclusive. To elucidate the nature of the association, we studied the relationship between serum 25-hydroxyvitamin D (25(OH)D) levels and AF incidence in the Norwegian Trøndelag Health (HUNT) Study using both conventional observational and Mendelian Randomization (MR) approaches.

Methods: 3394 adult participants without AF diagnoses were followed up from HUNT3 (2006-2008) to 2021 in a prospective cohort. Average serum 25(OH)D levels over ten years between HUNT2 (1995-1997) and HUNT3 were calculated and categorized into <50 and ≥ 50 nmol/L as exposure. AF diagnoses were retrieved from hospital registers and validated by medical doctors. Cox regression was used to calculate hazard ratios (HR) and 95% confidence intervals (CI). Furthermore, a one-sample MR was conducted among 36,554 adults who participated in both HUNT2 and HUNT3. An externally weighted genetic risk score based on 19 vitamin D-related genetic variants, chosen for their clear biological functions in serum vitamin D transport, synthesis and metabolism, was used as instrument. We applied the Wald ratio method to assess the causal effect.

Results: During a median 13-year follow-up, 303 AF cases were diagnosed in the prospective cohort. Serum 25(OH)D level <50.0 nmol/L was associated with a 26% reduced incidence of AF (HR 0.74, 95% CI 0.58 to 0.95), compared to serum 25(OH)D ≥ 50 nmol/L after adjustment for confounders. Genetically determined 10 nmol/L decrease in serum 25(OH)D level was associated with a 7% reduced incidence of AF (HR 0.93, 95% CI 0.86 to 1.00) in the MR analysis. Sensitivity analyses supported this positive association.

Conclusions: We found a consistent positive association between serum 25(OH)D level and AF incidence in the Norwegian HUNT population using both observational and MR approaches.

Key messages:
- Serum vitamin D levels appeared to be positively associated with the incidence of AF.
- Vitamin D supplementation should be prescribed with caution, especially for people at high risk for AF.

Abstract citation ID: ckae144.718
Lessons learned and new approaches to stockpiling for public health emergencies

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Background: The COVID-19 pandemic highlighted the need to improve preparedness for emerging health threats. This includes reserving assets for use in health emergencies, such as, shelters, energy supply items, and a stockpile of medical countermeasures (MCMs). Learnings from the recent pandemic are key to improving future strategies for preparedness in Ireland and across Europe.

Methods: Semi-structured interviews were conducted with key representatives in France, Latvia, Lithuania, the Netherlands, and Norway. These countries were chosen as they have a similar threat profile to Ireland. The interviews aimed to understand the national approach taken in each country to stockpiling of MCMs for public health emergencies. Interview summaries were developed and reviewed by key representatives for clarity. Thematic analysis was conducted.

Results: All of the key representatives interviewed were working within their associated Department of Health, or a government affiliated public health agency. Themes and key findings identified included scope and current stockpiling approaches; cost considerations and efficiency, and an understanding of how stockpiling approaches have evolved overtime. While some countries stockpiled items such as facemasks, gloves and ventilators during the COVID-19 pandemic, this is being reviewed, due to the high costs involved. Additionally, all countries reported that waste due to unused stock was a challenge, however, the use of stock rotation can reduce stock waste. Choice of supplier is also key for security of supply. Using indigenous suppliers can facilitate a scale up of supply in times of crises.

Conclusions: National MCMs stockpiles are a key resource that may be deployed as part of a response to health emergencies and disasters. Reducing waste was a key priority and challenge for all countries. Measures identified to reduce waste in future included active management of stockpiles, stock rotation and the use of indigenous suppliers.

Key messages:

- As a result of the COVID-19 pandemic, many countries are reviewing their current approach to stockpiling.
- Key issues for countries included preventing waste and ensuring security of MCM supply.

11.K. Scientific session: Roots of public health: school health literacy to enhance population health outcomes in Europe

Abstract citation ID: ckae144.719

Organised by: EUPHA-HL, -DH, -HP, -ETH, -CAPH, London South Banks University (UK), Technical University of Munich (Germany), WHO Collaborating Centre for Health Literacy
Chair persons: Catherine Jenkins (UK), Orkan Okan (EUPHA-HL)
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This workshop will present empirical results from three representative studies on health literacy and digital health literacy conducted in primary and secondary schools in Wales and Germany: (1) Digital Health Literacy in Schools, (2), HLCA HL-Kids, (3) WHO HBSC Wales. While research on child and adolescent health literacy has gained traction in the past decade, only a few studies focus on health literacy in schools. While the European Commission and WHO, as well as most European governments, highlight the importance of schools to support children's health literacy, schools remain neglected as a research context. With only little evidence available, it is difficult to derive strategies and programs to promote health literacy in schools. We aim to provide practical novel knowledge and contribute to closing the school health literacy gap that is prevalent in Europe. In turn, this will also contribute to European public health development and population health outcomes. Levels of health literacy in child and adolescent populations across European countries and age groups are alarmingly low, making low health literacy a severe risk factor for health outcomes. Low health literacy is associated with worse health conditions and unhealthy behaviours, and in turn, impacts school attainment and educational outcomes. Evidence suggests that health literacy acts as a determinant of health and itself is influenced by other social determinants of health, such as education, intertwining health and education. All studies conducted so far provide evidence that low health literacy follows a social gradient, with children from less affluent families being more likely to have lower health literacy, widening preexisting health inequities observed in almost all health domains within Europe. While effective interventions on the individual and system levels are needed to enhance health literacy, implementation and evaluation research concerning children's health literacy is rare.

Workshop objectives: The aim of this workshop is to present findings from three representative studies on health literacy and digital health literacy in primary and secondary schools:

(i) The 1st speaker will introduce a study on health literacy and health behaviours of children aged 8-11

(ii) The 2nd speaker will discuss the influence of living environments on health literacy in 4th-grader school kids

(iii) The 3rd presentation will have its focus on navigating the infodemic through digital health literacy in adolescent students

(iv) The 4th speaker will show links between digital health literacy and health behaviour in adolescent students

The format of this workshop will be 4x10-minute presentations followed by a 20-minute panel discussion with the audience, reflecting the relevance of the results to public health research, practice, and policy. The chairs will provide a brief introduction to the concept and moderate the presentations and panel discussion.

Key messages:

- Our results show that health literacy should be addressed as early as in primary schools and that the places, households, and environments children grow up are critical social determinants of health.
- Digital health literacy has proven to be a valid learning topic in secondary schools and is linked to digital and media literacy, allowing us to define it as a targeted curriculum item.

Abstract citation ID: ckae144.720
Empirically exploring the association of health literacy with schoolchildren's health behaviours

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Background: Health literacy (HL) is a modifiable factor contributing to the promotion and maintenance of health and well-being throughout an individual's life. Identified as a priority in Wales, UK in 2010, progress has since stalled despite health and education as national policy priorities and international policy growth. There is a gap in understanding of children in Wales' HL needs, particularly below adolescent age ($<=$11 years).

Methods: This study aimed to scope a measure of children's HL to be integrated into the existing HAPPEN Cohort Study survey, which collects self-reported health behaviours of children aged 8-11. A review identified the Health Literacy of School-Aged Children (HLSAC) tool which conceptualises health literacy as a learning outcome. A convenience sample of n = 15 primary schools were recruited in April 2023 through HAPPEN and n = 669 school children n = 669 completed the online survey between May-June 2023.
Results: Preliminary data using sum HLSAC scores show a proportion of children with low (20.5%), moderate (52.8%) and high HL (26.8%). Independent samples t-tests comparing mean HLSAC scores with binary self-reported health behaviours show higher HL scores for weekly behaviours ($p < 0.05$); feeling less tired (0-4 days: 15.1+-4.1, >=5 days 14.5+-3.4), can concentrate (0-4 days: 14.3+-3.6, >=5 days: 15.5+-4.0) and consume less fizzy drinks (0-4 days: 15.0+-3.9, >=5 days: 14.0+-3.8). Further, for can ride a bike (no: 14.3+-4.0, yes: 15.0+-3.9), can swim 25m (no: 14.6+-3.7, yes: 15.1+-4.0), someone active in the household (no: 14.3+-3.8, yes: 15.2+-4.0) and higher health well-being (<7/10: 13.9+-3.5, >=7/10: 15.3+-3.9). This preliminary data will be strengthened with further analyses including regression.
Conclusions: Associations appear between various important health behaviours spanning physical activity, nutrition, cognition and well-being. Capturing children's HL and health behaviour needs enables targeted health promotion and education activities.

Abstract citation ID: ckae144.721
The influence of living environments on subjective health literacy in fourth-graders in Germany

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Background: Evidence suggests that worse family affluence is related to low health literacy in children. Still, for the targeted promotion of health literacy, a more nuanced understanding is needed of how living environments affect health literacy in early life. This study explores the relationships between health literacy and indicators of living environments in the neighborhood and at home.
Methods: A representative sample of 4th-graders (age 8-11) was surveyed from Oct. 2022 to Feb. 2023 in North Rhine-Westphalia, Germany. We included the HLS-Child-Q15 to assess subjective health literacy, 4 items about the neighborhood (e.g., "neighborhood is a good place to play outside" or "I often see people smoking in the neighborhood"), and 4 items about home (e.g., "there's always fruit and vegetables at home" or "it's important to my parents that I exercise"). The tendency to answer in a socially desirable way was controlled for with a validated scale. Likert-scale items were dichotomized for use in linear regression.
Results: n = 1085 students are included, 50.3% are female. The mean age is 9.5 years (SD=.6). The regression model explains 17.8% of variability in health literacy (corr. R^2). Significant ($p<.05$) predictors for high health literacy were birthplace (Germany, not Germany), agreement to the statements "I often see people exercising in my neighborhood", "my parents can answer all my question about health", "there's always fruit and vegetables at home", "it's important to my parents that I exercise", but also social desirability scores. Family affluence was not a significant predictor.
Conclusions: In this sample of 4th-graders, subjective health literacy could not adequately be explained by family affluence. Indicators of living environments seem to be better suited to explore variability in health literacy. These findings can be used to explore entry points for the promotion of health literacy early in life and to identify groups at risk for low health literacy.

Abstract citation ID: ckae144.722
Navigating the infodemic through digital health literacy education in schools

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Background: High digital health literacy (DHL) can help to navigate the internet's vast information landscape. This research explores the impact of learning DHL in schools on students' DHL, and how it might mitigates confusion surrounding health-related information. Moreover, this research sheds light on how learning DHL in schools influences students' inclinations towards specific sources of health information.
Methods: 1448 secondary school students aged 9-18 years participated in face-to-face interviews. Associations between learning digital health literacy (DHL) and students' DHL, comprehension of health information, sense of being informed on health topics, and utilization of diverse health information sources were evaluated using the chi-squared test.
Results: The learning of DHL within school settings demonstrated a significant correlation with students' overall DHL (X2 (6) = 120.99, $p < .001$). Those reporting high levels of DHL learning exhibited reduced confusion regarding health information (X2 (4) = 16.65, $p = .002$) and felt notably more informed (X2 (4) = 231.06, $p < .001$). Contrasted with peers who reported insufficient learning of DHL, students with high learning reported learning more about health from parents (X2 (2) = 55.28, $p < .001$), peer interactions (X2 (2) = 214.51, $p < .001$), online sources (X2 (2) = 78.54, $p < .001$), influencer content (X2 (2) = 68.46, $p < .001$), offline literature (X2 (2) = 24.32, $p < .001$), television (X2 (2) = 140.36, $p < .001$), and in school (X2 (2) = 205.53, $p < .001$). However, they were less reliant on physicians for health information (X2 (2) = 53.62, $p < .001$).
Conclusions: Integrating DHL into school curricula holds promise for enhancing students' DHL and alleviating apprehensions regarding health-related information. Moreover, such educational initiatives have the potential to expand students' repertoire of resources for accessing health information, encompassing both digital and non-digital sources.

Abstract citation ID: ckae144.723
Digital health literacy and health behaviour of schoolchildren: A representative study in Germany

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Background: Health information is increasingly available and plays a crucial role in making health decisions and developing healthy behaviours. Digital health literacy (DHL) enables one to distinguish between true and false health information online. Studies have found higher health literacy to be associated with healthier behaviour. However, there is no research on child DHL and health behaviour. This study aims to investigate the relationship between DHL and selected health behaviour of schoolchildren in Germany.
Methods: This cross-sectional study is based on a representative sample of ($N = 1448$) secondary schoolchildren (aged 9-18 years) in Germany across all 16 federal states and school forms. DHL was assessed using the child and adolescent version of the Digital Health Literacy Instrument developed and pretested in this study. Selected health behaviours (eating, teeth brushing, smoking, and alcohol consumption) were measured using self-report scales. Chi-square tests were conducted to measure differences between DHL and health behaviour.
Results: Associations were found between DHL and all eating behaviours (fruits; vegetables and salad; whole-grain products; other animal-based products; chocolate or other sweets; sugary drinks; fast food), except for eating meat and sausages. Schoolchildren with higher levels of DHL reported more often about regular consumption of fruits and vegetables (X2 (2)=17.06, $p = <.001$). salads (X2 (2)=56.54 $p = <.001$) and whole-grain-products (X2 (2)=98.81 $p = <.001$). While DHL was associated with teeth brushing (X2 (2)=44.46, $p = <.001$), no differences were observed for smoking (X2 (2)=1.93, p=.381) and drinking alcohol within the last 30 days (X2 (2)=2.62, p=.270).
Conclusions: These findings indicate that most health behaviours of schoolchildren may benefit from enhancing DHL in schools. Programs should build around these topics. However, more research is needed to investigate associations between DHL and health behaviours comprehensively.

11.L. Round table: Fiscal measures for building resilient European health systems

Abstract citation ID: ckae144.724

Organised by: Ecorys, EUPHA-PHPP, -ECO
Chair persons: João Vasco Santos (EUPHA-ECO), Marleen Bekker (EUPHA-PHPP)
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Currently, over 100 million European citizens are affected by obesity and non-communicable diseases. These health conditions impact individuals and society economically as well as socially. Therefore, an increasing number of Member States has introduced taxes on foods high in fat, sugar, or salt. However, divergent national fiscal health measures can lead to market distortion or fraudulent activities, revealing that, although the responsibility for implementing fiscal measures lies with national governments, health systems of different Member States are much interlinked. The increasing health risks for European citizens and its broader impact underline the importance of resilience in European health systems more than ever before, calling for early response and effective concrete actions from both EU institutions and national governments. Additionally, the topic of resilient health systems currently ranks high on the European agenda, with the Belgian Presidency promoting health system preparedness and early response and health care strengthening as one of their six priorities. The European Commission will also continue its work on this issue for the next five years. The EU has already taken steps in this matter, such as the launch of the European Health Union and the creation of HERA. However, in order to preserve a healthy society, the EU must further develop in this regard. Therefore, this round table discussion will focus on the question of how fiscal measures in Member States can contribute to resilient health systems. It aims to generate ideas on how Ministries of Health can contribute to resilient health systems via fiscal measures compatible with European Community law that promote health and prevent disease. Panellists from the WHO Regional Office for Europe, the Hungarian Ministry of Health and Ecorys, a research-based consultancy, will provide diverse perspectives on the topic. The added value of the round table is laying out possible ways of how both the EU and Member States can contribute to enhancing the resilience of European health systems. In the discussion, knowledge is derived from various research projects, such as Ecorys' study for DG TAXUD on health taxes, their study for the Dutch Ministry of Finance on sugar taxes, and their literature study on sugar taxation and VAT reduction on fruits and vegetables. Furthermore, as an example of alternative funding mechanisms for resilient health systems, the Hungarian approach to health taxes will be reviewed, since a portion of the tax revenue from their public health tax is used to finance public health initiatives. From a policy perspective, the round table will aid in formulating recommendations for improving the resilience of EU health systems for the next five years.

Key messages:
- Unhealthy foods and drinks consumption poses significant health risks, impacting economy and society, and requiring evidence-based fiscal measures as part of comprehensive measures.
- The round table provides public health stakeholders the opportunity to generate recommendations for improving the resilience of EU health systems for the next five years.

Speakers/Panelists:
Kremlin Wickramasinghe
Division of Country Health Programs, WHO/Europe, Denmark
Krisztina Biró
Ministry of Interior, State Secretariat for Health, Budapest, Hungary
Soila Karreinen
Tampere University, Tampere, Finland
Rana Orhan Pees
Ecorys, Rotterdam, Netherlands
Sara Cerdas
Former Member of the European Parliament, Brussels, Belgium

11.M. Oral presentations: Mental health, social security and work

Abstract citation ID: ckae144.725

Parental leave benefit levels and postpartum maternal mental health: a Swedish cohort study

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Background: While generous parental leave benefits are protective for postpartum maternal mental health, not all mothers qualify for these benefits due to strong work requirements. Sweden offers paid parental leave to all residents, but the benefit level depends on their salary and labour market attachment.
Objectives: To evaluate the association between parental leave benefit levels and maternal mental health in the postpartum period.
Methods: Using total population register data, we studied 210 800 first-time mothers, aged 18-52 years, who gave birth to a live singleton offspring in Sweden between January 1, 2007 and December 31, 2011. We performed multivariable logistic regression to compare odds of mental health outcomes from different levels of severity (prescribed anti-depressants or anxiolytics, specialist outpatient care and hospitalisation) between mothers receiving higher-level benefits (i.e., qualified for earnings-related benefits) and those with basic benefits (i.e., a low flat-rate level). We also performed decomposition analyses using the Karlson-Holm-Breen method, and subgroup analyses by region of birth.
Results: Mothers receiving basic benefits had increased odds of prescribed antidepressants or anxiolytics (OR 1.44 95% CI 1.37-1.51), specialist outpatient care (OR 2.27 95% CI 2.13-2.44), and hospitalisations (OR 2.47 95% CI 2.97) compared with mothers receiving higher-level benefits. Increased odds remained after adjustment for pre-existing mental health. After further adjustment for income and employment status, the odds remained elevated for specialist outpatient care (OR 1.13, 95%CI 1.02-1.24) and hospitalisation (OR 1.34, 95%CI 1.03-1.76).
Conclusions: Mothers with basic benefits are more likely to experience moderate-to-severe mental disorders compared to mothers with higher-level benefits, independent of pre-existing mental health, income and employment status.
Key messages:

- Labour market attachment prior to childbirth affects parental leave benefit levels and plays an important role in determining mental health outcomes in the postpartum period.
- The work requirements for more generous parental leave benefits may prevent mothers from benefiting from the protective mental health advantages of parental leave.

Abstract citation ID: ckae144.726

The role of mental health-related healthcare use in employment and benefits use after unemployment

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Background: Mental health problems are common among unemployed job-seekers and they further hinder successful re-employment. Previous studies investigating the role of mental health problems on labour market participation after unemployment have largely focused on a single outcome. However, many have subsequent unemployment or receive different types of benefits. To understand these complex pathways a more comprehensive approach is needed. In this study, we examine how mental health-related healthcare use among the unemployed affects their employment and benefit use trajectories.
Methods: We use a 90% population sample of individuals who were residing in Finland at the end of 2010, who were 25-59 years old and unemployed between 2014-2016 (n = 596,323). We use multistate trajectory models to analyse their employment and benefits use development three years after the onset of unemployment. We will further use multinominal regression analysis to investigate how mental health-based healthcare use is associated with these trajectories and how this association varies between different sociodemographic groups.
Results: Around half of the unemployed job-seekers received some type of benefit after the onset of unemployment. Almost 25 % received sickness allowance (especially women), a little less social assistance (especially young and low educated), or unemployment benefits (especially men), and around 10 % received disability pension (especially among those with healthcare visits due to mental disorders). Next, we will conduct a trajectory analysis to get a more comprehensive picture of the employment and benefits trajectories.
Conclusions: Unemployment is followed by complex employment and benefits trajectories which further differ by sociodemographic groups and mental health-related healthcare use. Knowledge on the factors influencing these trajectories will help direct employment-promoting interventions towards different groups of unemployed.
Key messages:

- Many unemployed job-seekers receive some type of social or sickness benefit after unemployment.
- The employment and benefits trajectories after unemployment differ between those who had mental health-related healthcare use and those who did not, and further by sociodemographic factors.

Abstract citation ID: ckae144.727

Joint associations of psychological distress and working conditions with sickness absence in Finland

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Background: Psychological distress has increased remarkably, especially among younger age groups, during the last years. Both psychological distress and exposure to strenuous working conditions are known risk factors for sickness absence (SA). We examined whether psychological distress and working conditions are jointly associated with SA periods of 1-7 days and 8+ days among young and midlife Finnish employees.

Methods: We linked survey data from the Helsinki Health Study cohort from 2017 (response rate 51.5%) with the employer's SA register for the City of Helsinki, Finland (82% consented to the linkage; n = 3949, 80% women, age 19-39 years). Mean follow-up time was 2.1 years. We calculated rate ratios (RR) and 95% confidence intervals (CI) for SA periods of 1-7 days and 8+ days using negative binomial regression models among participants with and without psychological distress, and with and without exposure to strenuous working conditions. Psychological distress was measured with the emotional wellbeing subscale of RAND-36 (cut-off 60 points). Working conditions included physical and mental strenuousness of work and hours per day spent in heavy physical work.

Results: Participants with psychological distress and exposure to strenuous working conditions had the highest age- and gender-adjusted RRs for SA periods of ≥ 8 days (physically strenuous work: RR: 2.38, CI: 1.97-2.88; mentally strenuous work: RR: 2.08, CI: 1.72-2.53; ≥ 3 h per day spent in physical work: RR: 2.48, CI: 2.01-3.06), the interactions being additive. The associations were weaker for SA periods of 1-7 days. Adjusting for marital and employment status, education, alcohol use, smoking and body mass index only slightly attenuated these associations.

Conclusions: Psychological distress and exposure to strenuous working conditions were additively associated with SA. Both individual- and workplace-related risk factors for SA are important to be considered when planning preventive actions.

Key messages:

- Young and early midlife Finnish employees with simultaneous psychological distress and exposure to strenuous working conditions had the highest rates of SA periods, the interactions being additive.
- Both psychological distress and exposure to strenuous physical and mental working conditions should be considered when planning preventive actions to reduce employees' SA.

Abstract citation ID: ckae144.728
Antidepressant medication before and after exiting paid work: a population-based study from Sweden

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Background: Exiting paid work can be linked to changes in mental health. However, antidepressant medication as an indicator of mental disorder has not been studied in a population that continues working longer. We aimed to explore trajectories of antidepressant medication before and after exiting paid work, among people in paid work at least until age 66. We then examined how sociodemographic factors and prior sickness absence and disability pension (SADP) were associated with such trajectories.

Methods: We included all people living in Sweden 2005-2020, aged 65-70 and in paid work 2010 based on income (N = 32,849, 39% women). All participants were in paid work at least 2005-2011, exited work during 2012-2015 and were not in paid work 2016-2020. We used register microdata for five years before and five years after exiting paid work and included a range of sociodemographic factors at the exit year as well as number of SADP days/year due to mental diagnosis (ICD-10) prior to work exit. We used group-based trajectory modelling to examine developmental patterns in antidepressant medication (ATC-code N06A) and average marginal effects to study factors that were associated with each trajectory.

Results: A majority, 89.5% did not have any antidepressant medication during the study period. Among those with such medication, two latent trajectories were identified: 94% had constant use and 6% increasing use. Having any SADP due to mental diagnoses before work exit was the most consistent determinant of belonging to the trajectories of increasing or of constant use of antidepressant medication, even after full adjustments. Older age at work exit was associated with a lower likelihood of belonging to increasing antidepressant medication trajectory.

Conclusions: Exit from paid work did not result in any major changes in the developmental patterns in antidepressant medication. Prior SADP was the most consistent determinant of antidepressant medication even after exit from paid work.

Key messages:

- Most people working until aged 66 or older had no antidepressant use and among those who did, the use was stable. Only in a small group such medication increased, already before their work exit.
- Sickness absence or disability pension days with mental diagnoses before work exit was associated with both increasing and constant antidepressant medication trajectories after the work exit.

11.N. Oral presentations: Health-related factors and impact

Abstract citation ID: ckae144.729
Maternal pre-gestational and gestational diabetes and risk of offspring epilepsy: A cohort study

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Background: Despite growing evidence linking maternal diabetes to impaired brain physiology and neurodevelopment in offspring, evidence on its effect on epilepsy remains scarce. This study aims to determine if intrauterine exposure to maternal pre-existing and gestational diabetes mellitus is associated with risk of offspring epilepsy.

Methods: We studied >2.3 million singletons live-born in Sweden between 1998 and 2021, with final follow up until October 31, 2023. The Swedish Medical Birth Register was linked to the National Patient Register to identify gestational diabetes (GDM), maternal pre-gestational type 1 (T1DM) and type 2 diabetes (T2DM), and offspring epilepsy. The incidence of epilepsy, comparing offspring of mothers with versus without diabetes, was calculated as hazard ratios (HR), adjusting for maternal education, smoking, body mass index, hypertension, epilepsy and other important confounders.

Paternal T1DM and T2DM were additionally analysed as negative control exposures to assess genetic confounding.

Results: Of the 2,335,245 offspring analysed (48.9% female), 13,883 (0.6%) were exposed to maternal T1DM, 4477 (0.2%) to T2DM, and 37,253 (1.6%) to GDM. During a median follow up of 13 years (range 0-26 years), 18,732 offspring were diagnosed with epilepsy. Maternal T1DM (HR 1.27, 95% confidence intervals [CI] 1.08-1.49) and T2DM (HR 1.34, 95% CI 1.00-1.49) were associated with higher hazards of epilepsy in offspring, compared with no exposure to maternal diabetes. Preterm birth and birth-asphyxia jointly mediated 63% and 39% of these associations, respectively. No association was found between maternal GDM and epilepsy. Paternal T1DM and T2DM did not show association with epilepsy.

Conclusions: In this nationwide population-based cohort study, children of mothers with T1DM or T2DM showed an elevated risk of epilepsy. The results from paternal comparison and mediation analyses suggest a key role of the intrauterine environment in the aetiology of epilepsy.

Key messages:

- Maternal pre-existing T1DM and T2DM might be risk factors for epilepsy in offspring and are likely to influence the risk through the intrauterine environment independent of genetic mechanisms.
- In the context of a globally rising prevalence of diabetes in women who get pregnant, it is crucial that the diabetes is well-regulated and birth complications associated with diabetes are prevented.

Abstract citation ID: ckae144.730
Self-rated health in preadolescents as a predictor for prescription redemption and hospital contacts

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Background: The decline in self-rated health among children and adolescents raises concerns for their overall well-being and future health outcomes. We examined whether self-rated health in preadolescence predicts both psychiatric and somatic prescription redemption and hospital contacts in later adolescence.

Methods: This cohort study is part of the Danish National Birth Cohort and focuses on children born between 1996 and 2003. A survey was distributed to 96,382 preadolescents aged 11, who were then followed from 2010 to 2018 (average follow-up of 6.9 years). Data on prescriptions and hospital contacts were obtained from Danish registries. Negative binomial regression was employed to calculate the incidence rate ratio (IRR), comparing preadolescent children who rated their health as poor ('Not So Good'/'Poor') to those who rated it as good ('Excellent'/'Good').

Results: Of the 47,365 (49.1%) 11-year-old preadolescents who participated in this study, 5.3% reported experiencing poor self-rated health. Overall, adjusted analyses revealed higher rates of prescription redemptions (IRR 1.63 [95% CI: 1.53; 1.73]) and hospital contacts (IRR 1.86 [95% CI: 1.74; 1.99]) in these children. Poor self-rated health in preadolescence was associated with more somatic (IRR 1.51 [95% CI: 1.40; 1.62]) and psychiatric (IRR 3.04 [95% CI: 2.59; 3.57]) prescriptions, as well as somatic (IRR 1.61 [95% CI: 1.51; 1.72]) and psychiatric (IRR 2.80 [95% CI: 2.42; 3.25]) hospital contacts in adolescence, with similar associations across sexes.

Conclusions: Poor self-rated health in preadolescence is associated with higher rates of prescription redemption and hospital visits in adolescence, suggesting that perceptions of health in early life influence long-term well-being, especially regarding psychiatric health. This straightforward self-rated health measure offers healthcare professionals valuable insights for identifying children who may require support and early intervention.

Key messages:

- Poor self-rated health in preadolescence predicts higher prescription redemption and hospital visits in adolescence, especially regarding psychiatric health.
- Simple self-assessment of health in childhood may have the potential to help identify those needing support and early intervention for long-term well-being.

Abstract citation ID: ckae144.731
Housing tenure and acute lower respiratory tract infection admissions in two Scottish birth cohorts

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Introduction: Early-life acute lower respiratory tract infections (LRTI) have been associated with increased morbidity and mortality. Despite young children spending much of their time at home, the contribution of home ownership status, on LRTI hospital admissions is unknown.

Objectives: To estimate the association between housing tenure and the odds of LRTI hospitalization in children <2 years in two birth cohorts.

Methods: De-identified Scottish birth records were linked to maternal Census data (2001 and 2011) and to hospital admission data to construct two birth cohorts (Cohort 1 (C1), born 2000-2002; Cohort 2 (C2), 2010-2012). Using logistic regression we estimated the association of housing tenure (owned, social rented, private rented, rent-free) with the odds of LRTI hospital admission, before and after adjustment for maternal age, residential area, and maternal qualification level.

Results: Over the 2-year follow-up, there were 14,833 LRTI admissions in 12,527 children (10,832 children had 1 LRTI admission and 1,695 >1 LRTI admission). 75.6 % of all LRTI admissions were due to bronchiolitis. In C1 and C2, 4.0% and 5.3% children, respectively, had one or more LRTI admission. Compared to children living in owned housing, the odds of LRTI admission were higher in children living in social rented housing (C1: Odds ratio=1.40, 95% confidence interval: 1.31-1.49; C2: 1.23, 1.16-1.31), private rented (C1:1.24, 1.11,1.39; C2: 1.14, 1.06-1.21), and rent-free housing (C1: 1.53, 1.35,1.74; C2: 1.04, 0.80-1.36) after confounder adjustment.

Conclusions: We found an association between non-owned housing and higher odds of LRTI admission which was more marked in C1 than in C2. Further research is warranted to unpick the mechanisms underlying the association between housing tenure and LRTI admission. Interventions to prevent LRTI admissions could usefully target children living in non-owned housing.

Key messages:

- This study demonstrates the value of administrative and health data linkage in improving our understanding of how socio-environmental factors might impact children's respiratory health.
- Children living in social and private rented housing (compared to owned housing) have a higher risk of LRTI hospital admission and could benefit the most from LRTI-lowering interventions.

11.O. Scientific session: Mental Health Among Sexual and Gender Minority Populations in Diverse Structural Stigma Environments

Abstract citation ID: ckae144.732

Organised by: EUPHA-SGMH
Chair persons: Richard Bränström (EUPHA-SGMH), Arjan van der Star (EUPHA-SGMH)
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Research conducted across numerous countries finds that sexual minority (e.g., lesbian, gay, and bisexual [LGB]) and gender minority (e.g., transgender [T]) individuals represent high-risk populations for poor mental health and suicidality. These disparities are believed to be a consequence of a stigmatizing environment and sexual and gender minority individuals' disproportionate exposure to stigma-based stress compared to cisgender (i.e., non-transgender) heterosexuals. Stigma occurs at multiple levels to compromise LGBT individuals' health. At the structural level, stigma manifests as unjust laws, policies, and cultural norms that deny, or fail to protect, the equal rights of LGBT individuals. At the interpersonal level, stigma manifests as discrimination in social interactions, social exclusion, and outright victimization. At the individual level, stigma can tax LGBT individuals' coping resources by requiring costly behavioral strategies such as concealment of one's LGBT identity. In this workshop, four studies from different regional environment with varying degree of structural stigma will be presented, i.e., the USA, Switzerland, Rwanda, and Kenya. They resent novel findings on the processes and mechanism underlying LGBT populations increased risk of mental health and links between stigma experiences at different levels. Dr. Clark will present a study of how negative news media coverage influence suicidality among LGBT young adults in the USA using intensive longitudinal assessments. Dr. Pfister will present findings from in-depth interviews concerning suicidality with individuals representing a wide variety of sexual and gender minority identities in Switzerland. Dr. van der Star will present a study exploring how structural stigma environments are linked to interpersonal and individuals level stigma experiences in sexual minorities representing different generations of LGBT populations. Dr. Stojanovski will present data from surveys and interviews of LGBT populations in Kenya and Rwanda focusing on experiences of discrimination and mental health.

Key messages:

- Negative media reporting, discrimination, and barriers to health care can influence mental health and suicidality among LGBT individuals.
- Identity concealment may represent a mechanism through which sexual minorities navigate structurally stigmatizing climates.

Abstract citation ID: ckae144.733
Real-time exposure to negative news media and suicidal ideation intensity among LGBTQ young adults in a high-stigma US state

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Background: With a recent surge in anti-LGBTQ policies and associated news/media coverage worldwide, there is a crucial need to study the role of LGBTQ negative news/media on proximal risk for suicide among LGBTQ youth, especially in high-stigma contexts.

Methods: Using a smartphone-based protocol, participants responded to brief self-report surveys 3x per day for 28 consecutive days. LGBTQ young adults (ages 18-24 years old) residing in Tennessee with recent suicidal ideation were recruited. At each assessment, participants reported real-time exposure to negative news/media, whether the news/media was related to LGBTQ topics, expectations of anti-LGBTQ rejection, and current intensity of passive suicidal ideation, active suicidal ideation, and self-harm ideation. Statistical analyses employed multilevel path analyses with restricted maximum likelihood estimation.

Results: 31 participants completed 2189 assessments (90.5% median compliance). Within-person effects showed that real-time exposure to LGBTQ - but not general - negative news/media was positively associated with suicidal ideation intensity. Significant indirect effects were present from exposure to LGBTQ negative news/media to higher suicidal ideation intensity through expectations of rejection. Mediation through expectations of rejection accounted for 25% and 39% of the total effect for active and passive suicidal ideation, respectively.

Conclusions: Findings have important public health implications related to media reporting, policy, and clinical intervention. Interventions targeting media organizations should promote responsible reporting practices and increase awareness of the potential suicidogenic impact of negative LGBTQ news coverage. This study joins numerous others in documenting the potential mental health harms of policies that restrict LGBTQ visibility and rights. Mental health professionals play a vital role in promoting coping in the face of exposure to LGBTQ negative news/media content.

Abstract citation ID: ckae144.734
The "noise" of suicide attempts – relating LGBTQ+-specific vs. non-specific factors

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Background: Despite the numerous research on the determinants and risk factors of suicide attempts, an understanding of suicide attempts as a process that holistically captures the perspectives of the actors involved is still lacking. Our study, therefore, aimed to better understand, from different perspectives, how (process) and why (subjective meaning, patterns of interpretation) (a) suicide attempt(s) among

LGBTQ+ youth happen and to relate LGBTQ+-specific vs. non-specific factors.

Methods: From 2021 to 2024, we interviewed LGBTQ+ youth in Switzerland who had attempted suicide between the ages of 14 and 25. As part of a multi-perspective approach, we also interviewed people from their social environment where possible. Data were collected and analysed using Grounded Theory Methodology, including theoretical sampling. The final sample consisted of 41 people: 7 bisexual/lesbian cis women, 4 bisexual/gay cis men, 15 trans/non-binary people of different sexual orientations, 3 heterosexual cis people, and 12 people from their social environment.

Results: Sexual orientation and gender identity (SOGI) emerged as either background or foreground "music" of the suicidal processes. In some LGBTQ+ youth, SOGI were key factors influencing their suicidality, e.g. experiencing a major lack of acceptance and barriers to accessing gender-affirming transition (foreground music type). In others, suicidality was mainly related to other aspects than SOGI, especially fundamental ones such as unsafe familial circumstances or sexualised violence, which were accentuated by SOGI-related factors e.g. feeling a lack of belonging (background music type). Further, a mixed type was identified, with SOGI and non-SOGI-related factors being equally important for suicide attempt(s).

Conclusions: Our study implies the need to adapt health promotion, suicide prevention, and early detection and intervention strategies according to the identified types of suicidal processes.

Abstract citation ID: ckae144.735
Multilevel Sexual Minority Stigma-Based Experiences and Mental Health Among U.S. Sexual Minority Adults: A Socio-Ecological Longitudinal Moderated Mediation Analysis

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Background: The current study aimed to longitudinally examine whether intrapersonal stigma (i.e., internalized stigma; identity concealment) mediates the associations between interpersonal stigma (i. e., adulthood and childhood victimization; everyday discrimination; perceived external stigma) and mental health outcomes among sexual minority adults, and as a function of two moderators: structural climate and generation.

Methods: Data from 600 sexual minorities across three generations (i.e., ages 18-25, 34-42, 48-55) who completed all three waves of the 2016-2019 Generations Study were merged with census division data on legal climate (2016 Human Rights Campaign State Equality Index). A series of three-wave time-lagged simplex moderated mediation models were estimated for each independent and dependent variable combination through two parallel mediators, with both moderators included on each independent-mediator variable pathway.

Results: Greater identity concealment partially explained the effects of perceived external stigma on greater psychological distress and suicidal ideation, but most strongly among older generations. Other mediation was not supported. Reversed sensitivity analyses revealed how identity concealment's positive effect on suicidal ideation may be suppressed through lower adulthood victimization and, only among younger generations in higher stigma climates, how it's positive effects on psychological distress and suicidal ideation may be suppressed through lower everyday discrimination.

Conclusions: Identity concealment may represent a salient mechanism through which sexual minorities navigate structural climates and the harmful effects of interpersonal stigma on distress and suicidal ideation. While the longitudinal findings provide some support for the cross-level effects of sexual minority stigma on mental health outcomes, further advanced time-lagged examinations are warranted.

Abstract citation ID: ckae144.736
The mental health impacts of othering LGBTQ+ in Rwanda and Kenya: a mixed methods exploration

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Background: Globally lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons experience stigma across at multiple socioecological levels with health-harming impacts. The objectives of this study were to quantify and explore how stigma shapes mental health among LGBTQ+ persons living in Rwanda and Kenya.

Methods: Respondent-driven sampling was used in this mixed methods study of LGBTQ+ persons. In Rwanda, we surveyed 499 and conducted focus groups with 59 persons. In Kenya, we surveyed 1,573 persons, conducted focus groups with 40 persons, and conducted 113 individual interviews. We used thematic analysis for the qualitative data to examine how LGBTQ+ discuss what shapes their mental health.

Results: The average depression score was 6.3, which is categorized as mild depression. Additionally, 36% (n = 744) scored as mild, 14% (n = 289) as moderate, 5% (n = 110) as moderately severe, and 2.5% as severe (n = 52). Average scores were the same in Kenya and Rwanda. In regression models, as compared to cisgender males, cisgender females' depression scores were 2.1 points higher (95% CI 1.5, 2.8), trans male scores were 1.6 points higher (95% CI 0.7, 2.5), trans female scores were 1.9 points higher (95% CI 1.1, 2.7), and gender non-conforming scores were 1.7 points higher (95% CI 1.0, 2.4). As compared to transgender people, lesbian & gay participants had depression scores that were 0.93 points lower and bisexual 1.3 points lower ($p < 0.000$). In adjusted regression models, we found that for every one-unit increase in discrimination, depression scores increased by 0.44 (95% 0.36, 0.52). Qualitatively, stigma was described as a prominent factor in negatively impacting mental health.

Conclusions: LGBTQ+ people in Rwanda and Kenya experience elevated mental health issues that arise from discrimination due to their stigmatized identity.

11.P. Scientific session: Behavioural Science of Emergency Preparedness across Europe

Abstract citation ID: ckae144.737

Organised by: RIVM (Netherlands), EC, WHO/Europe, Carlos III Health Institute (Spain), NIJZ (Slovenia)
Chair persons: Tina Likki (Denmark)
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The COVID-19 pandemic highlighted the critical role of human behaviour in times of crisis. However, it also revealed that the behavioural sciences were not optimally prepared to provide actionable insights to policy makers to support preventive and coping behaviours in a crisis context. To ensure that the behavioural sciences can provide timely and effective advice to policy makers during future emergencies, it is key to act before a crisis occurs. The current workshop chaired by the Behavioural and Cultural Insights Unit of the WHO, will offer five perspectives to explore how behavioural science as a discipline is being applied to our understanding of pandemic and emergency preparedness and what concrete actions can and are already being taken now. Following five short presentations, a discussion with the panel and the audience will take place. The Dutch National Institute of Public Health and the Environment (RIVM) will start by presenting their approach toward embedding behavioural science of pandemic preparedness: the organisation of a national stakeholder network, the development of a conceptual framework, and3) development of a quantitative survey monitor for individual level behaviour. monitoring pandemic preparedness. f The Spanish Carlos III Health Institute and Slovenian Public Health institute will present insights about operationalising this monitor in their given context. They will present results of the first two rounds of this monitor on behalf of the four European member states, focusing on comparative insights on perceptions and states of preparedness, vaccination, citizen wellbeing and resilience with respect to their context. Next, the Competence Centre on Behavioural Insights of the European Commission will present an experimental approach toward preparedness. They will present results based on a scenario study, focused on understanding behaviours in the broader context of pandemic and disaster preparedness. The last two presentations will reflect on qualitative approaches. The Behavioural and Cultural Insights Unit of the WHO will present their qualitative study on health-service access, needs and behaviours of Ukrainian refugees in neighbouring countries, and reflect on operating under emergency constraints. In the final presentation the RIVM will present their findings of qualitative methods to study perceived emergency readiness. In particular, their study focuses on what citizens understand by pandemic preparedness, and to what extent they perceive their government as prepared for a future pandemic. Overall, the workshop aims to equip participants with a comprehensive understanding of the importance of behavioural science in pandemic and disaster preparedness and inspire collaborative action towards building resilient and effective strategies for future crises.

Key messages:

- The workshop underlines the importance of behavioural science in preventing and responding to infectious disease outbreaks.
- Participants learn how behavioural sciences can already be applied now to prepare citizens and organisations for future pandemics and crises.

Abstract citation ID: ckae144.738
A behavioural perspective on pandemic preparedness

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Driven by lessons learned from the COVID-19 pandemic, the RIVM Behavioural Unit is working on the preparedness of social and behavioural sciences. This includes establishing and maintaining a stakeholder network and a knowledge base on pandemic preparedness and behaviour. Using the socio-ecological model and the emergency management cycle, we propose a conceptual framework for a behavioural perspective on pandemic preparedness. The multilevel (individual, community, organisational, national and supra-national), time-dependent (cold, acute, recovery phase) structure of the framework can be helpful in explicating who has to do what, when. In addition, to explain and understand what different actors require for those behaviours prior to or during a pandemic, we propose an adapted version of the COM-B model (Michie et al., 2011), including determinants of behaviour related to motivation, capabilities and opportunities. Based on these frameworks, various monitoring tools are developed. Here we present the Pandemic Preparedness and Behaviour (PPb) survey aimed at cold phase monitoring behaviour on an individual level (i.e. hygiene behaviours, social activity, preparedness behaviours) and their determinants. With this survey we will obtain baseline measurements ahead of a possible future pandemic and will have developed the appropriate tools to be used in a hot phase for as much as possible. In addition, results on cold phase determinants can help to identify where communities, organisations and governments can provide support to improve pandemic preparedness. In this presentation, the proposed conceptual framework and the PPb survey will be discussed, together with their relevance for preparedness of the social and behavioural sciences.

Abstract citation ID: ckae144.739
The state of pandemic preparedness in four European countries

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One of the lessons learned from the COVID-19 pandemic is that monitoring determinants and behaviour can improve policy and communication strategies. To improve countries' capacity to respond in a hot phase of a pandemic and build a resilient society, suitable monitoring in a cold phase of various behaviours and determinants that could become important in future pandemics is key. In

March 2024 we launched the first round of the Pandemic Preparedness and Behaviour (PPb) survey in four European member states: Spain, Slovenia, Ireland and The Netherlands (N = ∼1000 per country). In this presentation we start by showing key findings. For example, we found that overall, approximately one third of participants believe their government is prepared if a new pandemic would occur next month. Next, we discuss similarities. For example, we find that in all four countries, perceived preparedness of self is higher than perceived preparedness of one's government. We also address key differences, such as distinct patterns in perceived risk of a highly contagious outbreak in the next 5 years (whereas in Spain 26% perceives of participants an outbreak as probable, this is 43% in Slovenia) or differences in self-reported adherence to hygiene behaviours (i.e. handwashing after coughing or sneezing in elbow is markedly higher in the Slovenian sample than in the Netherlands). Next, we explore which determinants of these patterns are generalisable, and which are specific to two of the four countries: Spain and Slovenia. We follow up by comparing insights for policy and practice in their given contexts, as well as lessons learned with respect to use and development of the monitor. We conclude that monitoring individual behaviours and its determinants helps to develop joint efforts in developing effective public health policies across Europe regarding pandemic preparedness.

Abstract citation ID: ckae144.740
A scenario study on disaster preparedness behaviours

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Europe has faced several crises over recent years, including the COVID-19 pandemic and the war in Ukraine. Additionally, the climate crisis has led to an increase in the occurrence of extreme weather events and natural disasters. Getting citizens on board when it comes to being prepared for the changing risk landscape in the EU is essential in building societal resilience. The importance of the population's preparedness to deal with disasters has also been underlined by the Commission's identification of the Union Disaster Resilience Goals (2023/C 56/01). One of these goals focuses on increasing risk awareness and the adoption of risk prevention and preparedness measures among the population. Research has shown that simply advising people of potential risks in their region is not necessarily sufficient to motivate them to prepare. Yet, preparation is key to an adequate responses in emergency situations and improving preparedness may thus be a powerful tool to support the population's ability to respond in times of crisis. The EC JRC's Competence Centre on Behavioural Insights will present a study conducted in five member states (N = ∼1000 per country), which investigates the effect of envisioning a disaster situation, and therefore explicitly eliciting personal affectedness, on individuals' self-reported preparedness intentions and preparedness behaviours. The study uses multiple measures for intentions and preparedness behaviours, including click-through to external information and an incentivised preparedness game.

Abstract citation ID: ckae144.741
WHO Regional Office for Europe Behavioural and Cultural Insights Unit qualitative studies with refugees from Ukraine, May 2022-September 2023

Martha Scherzer

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The Russian invasion of Ukraine led to the movement of millions of people. As neighbouring countries opened their borders and made services available to those fleeing war, it became imperative to understand the refugee perspective. To gain insights into refugees' health-service access, needs and behaviours, the WHO Regional Office for Europe Behavioural and Cultural Insights (BCI) Unit conducted qualitative interviews with Ukrainian refugees residing in Czechia, Poland, Romania, Slovakia and Slovenia. Ukrainian researchers interviewed refugees online, recruiting participants through social media channels and outreach activities. The findings were discussed in high-level meetings, stakeholder workshops and webinars, and informed action by partners, governments and WHO. As examples, refugee clinics were initiated in Czechia, Poland and Romania. Cultural mediators were engaged in Romania to support health-care access at local level, and nongovernmental organizations were supported in providing tailored assistance. In Poland, the telephone hotline for Ukrainian health workers was expanded to include a line for general information, and Slovakia extended health coverage for all refugees under the age of 18.

Abstract citation ID: ckae144.742
Citizen's perspective on pandemic preparedness

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In the aftermath of COVID-19, pandemic preparedness has become a key concern for governments and public health institutes across the world. As policymakers and scientist grapple with the lessons learned and implications for pandemic preparedness, it is also imperative to take the perspectives of citizens into account. To explore the perceptions and expectations regarding pandemic preparedness, the Behavioural Unit of RIVM conducted a qualitative follow-up study amongst a representative sample of Dutch citizens. At different locations in the Netherlands focus groups were organized with diverse participants. The topic guide was based on an analysis of a previously administered pandemic preparedness questionnaire and theoretical framework, also presented in the current workshop. Topics included risk perceptions, trust in government and other institutions versus self-reliance and the role of media and communication. Furthermore, pandemic preparedness was contrasted with other forms of disaster and crisis management. During the presentation the latest results are shared, and we will discuss possible policy recommendations and how the general public can be involved to develop a better understanding of their needs with respect to preparedness.

11.Q. Round table: A Guide for creating a code of ethics for public health professionals and institutions

Abstract citation ID: ckae144.743

Organised by: EUPHA-ETH, Global Network for Academic Public Health, Faculty of Public Health (UK), ASPHER
Chair persons: Els Maeckelberghe (EUPHA-ETH), Mary Codd (Ireland)
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The professional discipline of public health is driven by its values. Public health professionals face decisions that have far-reaching ethical implications. Our norms, values, beliefs and the way we see the world, as individuals, communities and institutions which serve us, do matter and fundamentally affect our decisions, behaviours, policies, and practice. The ability to be aware and reflect on norms and values when taking decisions, is a decisive professional virtue in public health practice. The World Health Organisation (WHO) and Association of Schools of Public Health in the European Region (ASPHER) Roadmap for the professionalisation of the public health workforce, has highlighted ethics as an essential pillar for professionalisation, a core competency, and the need for a Code of Ethics and Professional Conduct for good public health practice. In order to further advance the issue the Global Network for Academic Public Health (GNAPH), ASPHER, the European Public Health Association (EUPHA), the UK Faculty of Public Health and other partners set up an expert international joint working group on public health ethics and law (PHELWG). The PHEL expert working group - which includes senior public health professionals, ethicists, lawyers and academics - has been working to carry out research and develop a guide for creating a Code of Ethics and Professional Conduct for public health professionals and institutions. This has included consideration of the competencies, principles and values for good public health practice. The project has involved literature review, research and the wide professional experience of the international group of experts who have been working on the issue.The development of a guide for creating a code of ethics for public health professionals and institutions is part of the overall objective of the PHELWG to build a ethico-legal competency, capacity and resilience of public health workforce. The proposed Guide and related resources will be a timely resource, practical tool and support for public health professionals, organisations, or regulatory bodies to develop their own local country code of ethics and build further ethico-legal capacity of their public health professional workforce and institutions.
Purpose of the roundtable workshop will be to:
- present the guide on creating a code of ethics for public health public health professionals and institutions, which will be launched at that time
- Share the proposed ethical competencies/skills, principles and values for good public health practice, with particular consideration of Indigenous knowledge and world views
- reflect and consult with the workshop participants around the guide and the proposed pilot sites for implementing the Codes in various centres.

Key messages:
- Development of Code of ethics and professional conduct is a key requirement for public health professionalization.
- The Guide for creating code of ethics by international expert group provides significant resource for development of codes locally.

Speakers/Panelists:
Kasia Czabanowska
Maastricht University, Maastricht, Netherlands
Farhang Tahzib
Faculty of Public Health, Haywards heath, UK
Paul Athanasopoulos
Public Health Department, Stirling, UK

4. Pecha Kucha Sessions

1.X.1. Achieving universal health coverage: international lessons from Irish policy implementation

Abstract citation ID: ckae144.744

Organised by: Trinity College Dublin (Ireland)
Chair persons: Martin McKee (UK), Zeynep Or (France)
Contact: carlos.bruen@gmail.com

Health systems all over the world are struggling to meet population health needs and provide timely access to universal healthcare in the context of the COVID-19 pandemic. COVID-19 occurred in Ireland in the early years of implementation of a national plan for universal healthcare, called Sláintecare. While many health systems are experiencing a retrenchment on universalism in the context of COVID-19, in Ireland despite tediously slow Sláintecare implementation, the pandemic provided a boost to reform implementation and universalism. The reason for this workshop is to draw on a publicly funded Health Research Board Applied Partnership Award, entitled 'Foundations', harnessing lessons from the Irish COVID-19 health system response to inform Sláintecare's implementation https://hrbopenresearch.org/articles/3-70/v1
The objectives of the workshop are to
1) provide academic research evidence from the Irish experience of universal health system reform during and since COVID-19;
2) to give participants space to reflect on the implications of the Irish universal health system reform on international health systems and policy;
3) to actively involve workshop participants in an engaged discussion on implementing universal health coverage in the context of COVID-19.
The added value of the workshop is to share learnings from an academic research programme, which is coproducing evidence in partnership with the Irish health system, in a worldwide context, providing relevant and thought-provoking discussion and analysis

for an international audience. Four separate inter-related presentations will draw on aspects of the Foundations' research project. Presentation 1, Prof Sara Burke will outline recent academic literature on universalism and the politics of reform implementation in the context of COVID-19 and present a timeline of universal healthcare reform implementation since 2018 when Sláintecare was adopted by the Irish government (14 mins). Presentation 2, Dr Sarah Parker will detail a specific study which set out to advance understanding of how and to what extent COVID-19 has highlighted opportunities for change that enabled better access to universal, integrated care in Ireland, with a view to informing universal health system reform and implementation (10 mins). Presentation 3, Dr Katharine Schulmann and Carlos Bruen will present findings on the governance of reform implementation and implications for all health systems (10 mins). Presentation 4, Dr Philip Crowley, Health Service Executive (HSE) National Director of Strategy and Research and Chair of the Foundations' research steering group will reflect how research findings can inform implementing reform and their implications for all health systems (6 mins). There will be four presentations totalling 40 mins, followed by questions and discussion chaired by an international expert/academic on universal health systems.

Key messages:

- COVID-10 has highlighted how universal health coverage is more important than ever, however the pandemic has resulted in some retrenchment on universalism.
- While data and research drove health system decision making during the pandemic, embedding research evidence into health system and policy reform remains challenging and can be politically opposed.

Abstract citation ID: ckae144.745
The politics of universal health system reform in the context of COVID-19

Carlos Bruen

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Background: Implementing universalism is more a political than a technical project. With this in mind, Ireland devised a ten-year plan through political consensus to deliver universal healthcare - Sláintecare. The COVID-19 pandemic occurred early in its implementation.

Methods: This is qualitative research drawing on international literature on universal health system reform in the context of COVID-19 as well as the politics of health reform. The overall research programme is co-produced with the Irish health system. A timeline and analysis of the reform journey is drawn from documentary analysis of key policy documents, parliamentary reports and key informant interviews.

Results: Despite a policy commitment since 2005, universal healthcare implementation only became government policy in Ireland 2018. While whole system reform and implementation progress has been slow, the COVID-19 health system response boosted aspects of universalism and reform. All COVID-related services during the pandemic were universal, free at the point of delivery, as are most new services introduced since 2021. Despite the political consensus holding through a change government and the pandemic, and significant additional investment in the public health system, there remain many obstacles to reform. These include different stakeholder understanding of implementing universalism in Ireland especially in the context of COVID-19, how best to implement universal healthcare and the politics of delivering reform.

Conclusions: Contrary to other countries' experience during COVID, Ireland pursued its policy aim of delivering universalism and expanded services provided universally, free at the point of delivery, with a focus on enhanced community care. The universalism applied to COVID-related prevention and care, new women's health and chronic disease management services. Despite progress, government has yet to legislate for a universal entitlement to care and obstacles to reform implementation remain.

Abstract citation ID: ckae144.746
How to not revert to type: learnings from the pandemic response for universal health system reform

Sarah Parker

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Background: Understanding of the opportunities and learnings for health system change that have arisen during the pandemic is still emerging. Situated in the Irish health reform context of Sláintecare, the programme which aims to deliver universal, integrated healthcare, this study set out to generate evidence on the processes that impacted access to universal, integrated care during COVID-19, with a view to informing universal health system reform and implementation.

Methods: The study, which is qualitative, was underpinned by a co-production approach with Irish health system leadership. Semi-structured interviews were conducted with 16 health system professionals (including managers and frontline workers) from a range of responses to explore their experiences during the pandemic. Following thematic analysis, a complexity-informed approach guided the interpretation of the findings.

Results: A range of factors facilitated better access to integrated care during the crisis, falling under three key themes (1) nurturing whole-system thinking through a clear, common goal and shared information base; (2) harnessing, sharing and supporting innovation; and (3) prioritizing trust and relationship-building in a human-centred health system.

Conclusions: Alongside establishing health system structures, we must also incorporate alternative approaches to reform that recognise the value of shared sense-making in an interdependent system, while also allowing for innovation, exploration and learning; and acknowledging the role of social dynamics in driving change.

Abstract citation ID: ckae144.747
The role of governance in shaping health system reform: a case study of the design and implementation of new health regions in Ireland, 2018–2023

Katharine Schulmann

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Background: This study focuses on the development of new regional health structures in Ireland in the period 2018-2023, one part of a broader health system reform programme aimed at greater universalism, in order to scrutinise how aspects of governance impact on the reform process, from policy design through to implementation.

Methods: This qualitative, multi-method study draws on document analysis of official documents relevant to the reform process, as well as twelve semi-structured interviews with key informants from across the health sector. Interviews were analysed according to thematic analysis methodology. Conceiving governance as comprising five domains (Transparency, Accountability, Participation, Integrity, Capacity) the research uses the TAPIC framework for health governance as a conceptual starting point and as initial, deductive analytic categories for data analysis.

Results: The analysis reveals important lessons for policymakers across the five TAPIC domains of governance. These include deficiencies in accountability arrangements, poor transparency within the system and vis-à-vis external stakeholders and the public, and periods during which a lack of clarity in terms of roles and responsibilities for various process and key decisions related to the reform were identified. Inadequate resourcing of implementation capacity, competing policy visions and changing decision-making arrangements, among others, were found to have originated in and continuously reproduced a lack of trust between key institutional actors.

Conclusions: Large scale health system reform is a complex process and its governance presents distinct challenges and opportunities for stakeholders. To understand and be able to address these, and to move beyond formulaic prescriptions, critical analysis of the historical context surrounding the policy reform and the institutional relationships at its core are needed

Abstract citation ID: ckae144.748

Co-producing research on universal health system reform in the context of COVID-19

Philip Crowley

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Issue: How to co-produce and embed research into universal health system reform implementation in the context of COVID-19. In many respects the pandemic revolutionised the use of data and research, with near real-time data informing key health policy and system decisions. This was evident in the production of publicly available data sets tracking COVID-19 infection as well as health system dashboard tracking activity in real-time and influencing day-to-day decisions made. How can this use of data and research evidence become the norm for all health system reform and policy decisions?

Results: The Foundations' research project is a partnership project in place since Autumn 2019. Initially focused on producing evidence to inform the design and implementation of new regional areas with the Department of Health Sláintecare Reform Office and the Irish national Health Service Executive as partners. When COVID-19 occurred all work on the regions was paused the research pivoted to harness the learnings form the COVID-19 response to inform universal health system reform. The partnership applied research nature of the programme allowed research to be coproduced and co-designed with health system leaders, meant the researchers understood if and when it was possible to engage with partners and how to feed result into the health system at the earliest opportunity.

Lessons: Trust and pre-existing working relationships with partners allowed the research to pivot and to continue during the pandemic. The applied partnership nature of the research meant that at times the health system was very engaged in the research and at other times (eg during COVID waves and surges or the cyber-attack) there was limited engagement. The co-production nature of the research allowed a dynamic, ongoing, two-way learning between the health system and the research team. It is extremely difficult to measure impact of research on health system and reform decisions.

1.X.2. Reducing inequalities in access to care in Europe: achieving universal health coverage and more

Abstract citation ID: ckae144.749

Organised by: European Observatory on Health Systems and Policies
Chair persons: Ewout Van Ginneken (Germany)
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Accessibility is multi-dimensional. Universal Health Coverage emphasises the role of population coverage, the scope of services covered, and the depth of financial protection. However, there are other major barriers for patients that can inhibit universal access to health services: geographical inequalities, organisational barriers, and care denial. Health systems can provide extensive cover in some dimensions such as financial coverage or the range of services covered, but gaps in other dimensions can still act as a major barrier to care. Some groups are excluded from population coverage, other patients must navigate waiting times, medical deserts or cultural barriers in order to access care. In this session we will use an innovative filter framework outline common obstacles that patients in the European Union must overcome before they can access the care they need. We will then highlight policy responses to meet the dual goals of reducing inequalities in access to care and ensuring Universal Health Coverage. This workshop will provide a platform for sharing knowledge on reducing inequalities in access to care in EU countries. The objectives of the workshop are to i) highlight cross-cutting themes and approaches, and ii) establish opportunities for cross-country research and learning. The workshop will consist of four short presentations, followed by a broad discussion with audience interventions to bring in the experience of other Member States. Each panel member will make a short presentation in Pecha Kucha format: firstly outlining the filter framework for understanding access to health services then moving to descriptions of a policy journey to strengthening UHC in Cyprus, Estonia and Spain respectively. Bold reforms in Cyprus have expanded coverage under a new universal system; changes in Estonia have improved access to medicines; and policy-makers in Spain have sought to expand coverage of dental care. The moderated discussion will emphasise the potential for cross-country learning - identifying those policy choices of relevance for the rest of Europe. Presentations about specific policy initiatives draw on the latest Health Systems Reviews for Cyprus, Estonia and Spain. Health System Reviews underpin the Health Systems in Transition (HiT) series, a core part of country monitoring undertaken by the European Observatory on Health Systems and Policies. These Reviews are routinely updated and provide a systematic description of the functioning of health systems in countries as well as reform and policy initiatives in progress or under development. As these are in-depth descriptions which detail the intricacies of health systems and an assessment of their performance, they provide the ideal basis for understanding the true multidimensionality of accessibility.

Key messages:

- Even health systems in high-income countries need to address inequalities in access to care to ensure universal health coverage.
- The workshop will identify themes and approaches to improving access to care from a cross-country perspective through a multi-dimensional understanding of accessibility.

Speakers/Panelists:

Erica Richardson
European Observatory on Health Systems and Policies, London, UK
Cristina Hernandez Quevedo
European Observatory on Health Systems and Policies, London, UK
Yulia Litvinova
European Observatory on Health Systems and Policies, Berlin Hub, Berlin, Germany
Gemma Williams
European Observatory on Health Systems and Policies, London, UK

1.Y.1. Navigating choppy water for global health competencies, education and innovation in Europe

Abstract citation ID: ckae144.750

Organised by: School of Public Health Bielefeld University (Germany), Circle U. European University Alliance
Chair persons: Lara Tavoschi (Italy), Victoria Saint (Germany)
Contact: victoria.saint@uni-bielefeld.de

Global health is rapidly evolving against a backdrop of increasingly complicated, intersecting challenges and crises across health, socio-economic and ecological systems. Interconnected social justice movements call for greater acknowledgement, accountability and qualified responses to address inequities and their structural drivers. The field of global health is going through a period of reckoning and debate about how colonial legacies and structural inequities pervade the sector and how activities of global health professionals across research, policy and practice are complicit in and perpetuating them. Simultaneously, global health education (GHE) is growing, with new speciality degrees and core or elective courses integrated into degrees in medicine, health and other disciplines. Thus, GHE holds great potential as a space to train future professionals with competencies and aptitudes to confront inequalities through innovative, evidence-informed and sensitive approaches. Yet it is also a space in which inequalities may be reproduced through material and epistemic injustices. To address these paradoxical tensions, transformation in GHE is needed in terms of what is taught, how it is taught and who is involved in teaching. This Pecha Kucha workshop will contribute to this discourse by exploring perspectives on issues including: i) What key competencies and content should be included in GHE across different disciplines and Bachelor, Master or Doctoral level?; ii) How can we better practice and develop in educators and students critical perspectives and capacities to be equipped for and responsive to inequities and social injustice?; and iii) How can we ensure meaningful engagement and partnership in education with countries across varied contexts and communities with direct lived experience of marginalisation and deprivation? Four panellists with diverse backgrounds and perspectives will provide insights on their initiatives to tackles such issues within their own institutions and European alliances, followed by a short discussion with the audience. The presentations will emphasise the need to progressively build affective, practical and cognitive competencies to critically engage with historical, geopolitical and structural inequities and injustices, including how they manifest in local contexts. Panellists will highlight examples of innovative methods and approaches to build these capacities, including through co-design in education that fosters self-reflexivity in students and builds alliances and partnerships with non-academic stakeholders, such as civil society and people with lived experience. The Pecha Kucha workshop aims to inspire exchange across institutions and countries, and with the audience, about how we can collaboratively set our compasses and our sails to navigate the choppy waters of tackling pervasive colonial legacies and sailing towards an equitable, inclusive and effective future for education and action in global health.

Key messages:

- Transformation is urgently needed to ensure that global health education builds curricula and competencies that are sensitive and responsive to historical injustice and structural inequities.
- Equitable partnerships across institutions and with diverse stakeholders, and innovative educational approaches such as gamification and co-design, can address tensions in global health education.

Speakers/Panelists:

Henrique Barros
ASPHER, Porto, Portugal
Victoria Saint
Bielefeld University, Bielefeld, Germany
Francisco Mboufana
Department of Community Health, School of Medicine, Eduardo Mondlane University, Executive Secretary, Maputo, Mozambique
Mariam Sbaiti
Faculty of Medicine, School of Public Health, Imperial College London, London, UK

1.Y.2. Children's mental health problems explode. Can exposome research offer a solution?

Abstract citation ID: ckae144.751

Organised by: EUPHA-ENV, -CAPH, -PMH, INCHES
Chair persons: Marija Jevtic (EUPHA-ENV), Peter Van Den Hazel (EUPHA-ENV)
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Background: A week-long, multidisciplinary workshop at the Lorentz Institute explored the expectations of exposome research on child health. Exposome research investigates how combined exposures affect health. Currently we see an increase in adolescent mental health problems in Europe. We explore at the workshop if and how exposome research can be part of the solution to tackle this health issue.

Findings: The workshop aims were to analyze how monitoring data from exposome research can be best used for improving health policy in relation to improving (environmental) health policy in relation to children's health. By taking a deep dive into solution-finding, we explored creative solutions to better utilize existing exposome data from digital data platforms, such as cohort data. And to facilitate working across disciplines using innovative tools of working transdisciplinary across research, policymakers and other professionals. Furthermore, we study how to enhance, harmonize and interpretation of data on child health. Furthermore, we look how child health depends not only on the quality of a healthcare system, but also on the magnitude of negative or positive influencing factors, such as social and environmental factors. Identifying such stressors and reducing their impact through adequate policies can improve child health on local, national, or even global scales. One innovative way of identifying such stressors is the exposome approach. The exposome approach is the characterization of the non-genetic drivers of health and disease. The exposome comprises aspects of the Built environment (characteristics of where we live); the Social environment (with whom we interact, social networks and income); the Physio-Chemical environment (chemical and environmental factors exposure) and the Lifestyle/Food environment (what we eat, how much we exercise) over the entire life-course.

Workshop aims:

- Provide a background on the urgency of adolescent mental health problems in Europe.
- Compare approaches of stakeholders and researchers: stakeholders' input from the practical field can shape the approach of the research process. The second benefit is to derive implications for creating effective interventions and policies to prevent adverse effects of environmental exposures and to foster positive health in children and later in life.
- Explore existing interventions on child health for issues, experiences and possible solutions to the governance and organization of health adaptation in urban and social planning.
- How to act in the process of research to intervention to public policies.

The workshop consists of three short presentations followed by interactive panel discussions. We end with the audience actively engaging in the debate, as well as entering their questions. The workshop will end by identifying the current and future necessary roles, responsibilities, capacities of the public health researchers, policymakers, and professionals for child health protection in complicated exposure settings.

Key messages:

- Child mental health issues are increasing in an unexplainable way.
- Engaging stakeholders into an exposome research process can help to form a child health strategy in Europe.

Abstract citation ID: ckae144.752
Youth mental health and exposome

Jutta Lindert

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Mental health is a complex Public Health challenge, especially youth. A better understanding of factors that contribute to youth mental health and reduce the burden of youth mental health conditions such as executive and emotional functioning is needed to develop primary and secondary prevention interventions. One of the main challenges for better understanding mental health of youth is the complexity and diversity of exposures that individuals experience throughout their lifetime. There is a wide range of factors in the environment, and individuals are exposed to different combinations of external factors depending on their location, occupation, and lifestyles. These factors include physical (e.g., noise and indoor and outdoor air), chemical and social factors (e.g., neglect and abuse, relationship conflicts) based on the exposome framework. The exposome is a guiding framework for the multi-country study EARLY involving Albania, Belgium, Germany, Israel, Moldova, Portugal, Romania, Serbia, Spain, and Switzerland. EARLY is one of the first projects to theoretically explore and empirically investigate youth mental health in line with the exposome framework. We aim to identify factors influencing youth mental health with validated exposure measures. An exploratory list of measures was collected in Albania, Belgium, Germany, Israel, Moldova, Portugal, Romania, Serbia, Spain, and Switzerland. The measures vary widely. Besides the variation, there is still a lack of standardized methods for measuring environmental exposures. Limitations of measures affect reliability and validity. Therefore, an overview of available assessment methods and steps toward improving measures will be discussed in this talk.

Speakers/Panelists:
Karin Boode
GGD GHOR Nederland, Utrecht, Netherlands
Peter Van Den Hazel
INCHES, Ellecom, Netherlands

2.X.1. Sleep Health Disparities across the life-course: from research to public health policy

Abstract citation ID: ckae144.753

Organised by: EUPHA-CHR, Western University (Canada)
Chair persons: Saverio Stranges (EUPHA-CHR), Dayna Johnson (USA)
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Poor sleep health is a recognized common problem across the life cycle, globally. Factors that contribute to this problem include the demands of a "Western" lifestyle (urgency, productivity), economic stressors, social and environmental determinants of health, and global crises including international conflicts, political tensions, and climate change. There is a growing consensus that optimizing sleep health should be a public health priority because poor sleep patterns are a modifiable risk factor for myriad health outcomes, such as cardiovascular disease, diabetes, cancer, cognitive decline, mental illness, and early mortality. In Canada, a nationwide sleep consortium funded by the Canadian Institutes of Health Research (CIHR) was recently formed with a mandate to generate new knowledge that will inform clinical practice and support public health initiatives to deliver resources where they are most needed. The proposed workshop organized by the Chronic Disease EPH section will start with a general overview of the impact of sleep health disparities across the life-course, from childhood to older age, as well as discuss evidence-based public health approaches to promote sleep hygiene and mitigate the risk of adverse health outcomes, including chronic disease (Saverio Stranges). It will be followed by three presentations to address the root causes of sleep health disparities and their impact on chronic disease (Dayna Johnson); participatory research with families and care providers on infant sleep intervention development (Elizabeth Keys), and strategies to address common sleep disorders among middle-aged and older adults (Tetyana Kendzerska).

Key messages:

- Sleep health disparities are a neglected public health issue.
- Optimizing sleep health is both a clinical and public health priority, as sleep patterns represent a modifiable risk factor for a range of adverse health outcomes.

Abstract citation ID: ckae144.754

Sleep health across the life cycle: an unmet and neglected public health priority

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The presentation will set the stage on the central role of sleep health across the life cycle. Despite the large body of evidence on the importance of poor sleep behaviors as a modifiable risk factor for several adverse health outcomes, sleep health is still an unmet and neglected issue in public health policy, especially in the European context. Sleep problems are widespread and potentially affect everyone, from childhood to adult age. In addition, sleep health disparities represent a major source of health inequities across marginalized and high-risk population subgroups, such us people from low socio-economic status, women, refugees and immigrants, shift workers, people living with physical and mental illness. There is an urgent need to promote evidence-based health promotion and public health policy to enhance sleep health both in the general population and high-risk subgroups.

Abstract citation ID: ckae144.755

Social and environmental determinants of sleep health disparities

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Sleep is not equitable. Historically minoritized individuals have a high prevalence of sleep disorders and adverse sleep health. Research supports that social determinants of health are contributing to sleep health inequities. Further, sleep is socially patterned. Neighborhoods with high rates of crime, violence, disadvantage, pollution, inopportune light exposure, and noise, where historically minoritized individuals are most likely to live are associated with adverse sleep health and sleep disorders. Social determinants including discrimination, racism, socioeconomic status, lack of access to care are associated with adverse sleep health, particularly among minoritized individuals. While there is an abundance of evidence identifying risk factors for adverse sleep health, evidence also supports factors that promote healthy sleep. A small but growing literature supports that neighborhood social environment is associated with healthy sleep and may be avenue for addressing sleep disparities. Dr. Johnson will present epidemiologic data on the social and environmental determinants of adverse sleep health using a socioecological framework and discuss the mechanisms by which these factors are contributing to sleep disparities. The goal is to identify these factors, and how they can be utilized to address sleep health disparities.

Abstract citation ID: ckae144.756

A call to action about promoting healthy sleep among children

Elizabeth Keys
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Infancy is an ideal time to engage parents in foundational sleep health promotion, as many parents have concerns about infant sleep. However, recent work suggests most Canadian public health resources on infant sleep does not meet clear communication criteria and that these resources often only focus on sleep safety, rather than broader sleep health. Information is also limited with respect to how parents can manage infant sleep difficulties. While eHealth intervention programs can increase the accessibility of evidence-based pediatric sleep health information, recent parental feedback indicates that usability, personalization, and flexibility are key factors in facilitating use. Additional co-design workshops with care providers and parents provided critical guidance on the need to develop more inclusive infant sleep interventions, consistent with previous literature. This guidance suggests infant sleep interventions should be culturally humble and non-judgmental, inclusive of parenting partners, and provide credible, timely, and meaningful information.

Abstract citation ID: ckae144.757

Strategies to address common sleep disorders among middle-aged and older adults

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Obstructive sleep apnea (OSA) is an underdiagnosed and prevalent condition in middle-aged and older adults, with a disproportionate burden of OSA in marginalized populations. Lack of appropriate and timely treatment puts many at risk of poor quality of life, comorbidity, motor vehicle crashes and increased health care utilization. Furthermore, social and environmental disparities were acknowledged as contributing to sleep health disparities, OSA health literacy and adherence to OSA treatment. This presentation will overview the social and environmental determinants of OSA prevalence and management. The presenter will also cover strategies to improve access and waiting time for OSA diagnosis and treatment in middle-aged and older adults, such as screening for OSA in general and marginalized populations, alternative at-home OSA detection solutions, involvement of alternative care providers in OSA care, alternative OSA targeted therapies, including accessible self-administered interventions, health equity interventions targeting OSA, and promotion of sleep-centered lifestyle approaches, including weight loss, diet and exercise.

2.X.2. Cancer Screening Across the Life Course and Surveillance Bias

Abstract citation ID: ckae144.758

Organised by: #PopHealthLab University of Fribourg (Switzerland), Western University (Canada), EUPHA-CHR
Chair persons: Arnaud Chiolero (Switzerland), Saverio Stranges (EUPHA-CHR)
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The proposed workshop organized by the Chronic Disease EPH section will start with an overview of the impact of a life course perspective on cancer prevention and screening strategies, in the context of aging populations and fear of increasing health inequity. It will be followed by three presentations to address issues of cancer screening inequalities, low-value cancer screening, and cancer surveillance bias due to screening.

Key messages:

- Due to population aging, the burden of cancer increases and calls for new cancer prevention and screening strategies.
- Cancer screening strategies must be adapted among older adults and designed to prevent inequities.

Abstract citation ID: ckae144.759
Cancer prevention over the life course

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Within a life course epidemiology framework, the etiology and prevention of cancer are informed at different ages from a social, behavioral, and biological perspective (1). Due to population aging, the burden of cancer increases and calls for new cancer prevention and screening strategies. In this introduction, we will discuss the issues of cancer screening among older adults and inequalities in screening uptake, and how vulnerable population preventive strategies can reduce these health inequities.

Abstract citation ID: ckae144.760
Monitoring inequities using routine administrative data: a case study of cancer screening in Ontario, Canada

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Routine cancer screening is a critical primary care service to reduce cancer morbidity and mortality, through early detection, diagnosis, and treatment. We evaluated longitudinal changes in socioeconomic inequities in cancer screening in Ontario, Canada, by using linked provincial health administrative databases including 15.9 million records eligible for cancer screening. The rate of colorectal cancer screening increased between 2011 and 2020 (54% to 62%) with a reduction in the indices of inequity (slope index, SII: from 0.36 to 0.33; relative index of inequity, RII: from 0.69 to 0.54). However, the rate of cervical cancer screening decreased (from 76% to 68%), particularly in deprived areas (RII increasing from 0.47 to 0.54). Access to cancer screening is a challenge in deprived areas. Understanding the socio-economic determinants in access to screening across the life course can help develop tailored interventions to increase health equity.

Abstract citation ID: ckae144.761
Socioeconomic drivers of low value screening

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Low-value care brings minimal or no benefit to the patient and is a growing concern for healthcare systems. In this presentation, we will discuss the issue of low-value cancer screening, its frequency, and how it is socially patterned. The general population, policymakers, and healthcare providers expect a lot from cancer screening, while the actual absolute benefits are generally relatively low. In addition, screening practice often does not follow recommendations regarding the frequency of testing or the ages at which to start and to stop, and many screenings providing no benefit are commonly performed. Addressing low-value screening is key for evidence-based population health management and prevention.

Abstract citation ID: ckae144.762
Cancer screening and surveillance bias

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We will discuss the issue of surveillance bias, which arises when differences in the frequency of cancer are due to changes in screening and detection strategies rather than to differences in the true occurrence of cancer (2). This bias hampers the surveillance of scrutiny-dependent cancers, such as thyroid and prostate cancers and melanoma, leading to misinterpretations of cancer trends. Moreover, it can lead to the misinterpretation of potential risk factors for cancer occurrence, such as socioeconomic status.

2.Y.1. Communication in participatory health research with refugees and migrants

Abstract citation ID: ckae144.763

Organised by: ICPHR, EUPHA-MIG
Chair persons: Bernadette Kumar (EUPHA-MIG), Ana Gama (Portugal)
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Innovative approaches are needed to transform public health research and address health inequities. Participatory Health Research (PHR) is one such approach, which aims to maximize the participation of those whose life or work is the subject of the research in all stages of the research process. PHR has advantages for both research outcomes, including increased relevance, meaningfulness and impact of research, as well as for those involved, in terms of ownership and empowerment to address their health priorities. PHR with migrants has potential to reduce health inequities through the active involvement of migrants in research about their health. In a framework for refugee and migrant health in the WHO European Region, MacFarlane et al. (2022) recommend the research field of migration and health to adopt PHR as the norm, for ethical reasons and to support effective research-policy-practice translation. PHR with migrants is increasingly used but is still rare and adhoc in the field of migration health research. There are also potential practical and ethical challenges that warrant critical reflection. One persistent challenge is communication, where differences in culture, language and knowledge areas need to be considered in multiple ways, for example, in the development of participatory partnerships, in the conduct of data collection that takes place as a result of such participatory partnerships and in dissemination processes. The aim of the workshop is to share different approaches on PHR with migrants and propose solutions to common challenges in communication. The workshop will be structured in a first part where presenters will draw upon their experience in PHR with refugees and migrants covering a broad range of topics relating to communication, and a second part of open discussion with presenters and the audience. The workshop will address two key questions: what challenges have we experienced, and lessons learnt.

Anne MacFarlane presents emerging evidence about music and singing as culturally attuned arts based methods that can create innovative opportunities for communication for partnership building, fieldwork and dissemination. Ana Gama presents on using idea-generation workshops with vignettes representing migrants with diverse health-literacy profiles and its potential to address communication challenges.

Key messages:

- Participatory health research with migrants warrants critical reflection around communication, ethics and partnership-building.
- In participatory health research, using innovative and creative methods can create opportunities to overcome communication barriers and build meaningful collaborations.

Speakers/Panelists:

Anne MacFarlane
University of Limerick, Limerick, Ireland
Ana Gama
IHMT, Universidade Nova de Lisboa, Lisbon, Portugal

2.Y.2. International Health Regulations – role on disease control and global challenges

Abstract citation ID: ckae144.764

Organised by: Universidade Nova de Lisboa (Portugal), WHO Collaborating Center for Health Workforce Policies and Planning
Chair persons: Rita Sá Machado (Portugal), Carina Silva (Portugal)
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The International Health Regulations (IHR) are a legal instrument aimed to control infectious disease epidemics worldwide and that makes countries accountable for monitoring and promptly notifying the World Health Organization (WHO) of events that are likely to represent a public health emergency. The 196 signatory countries are bound by this international agreement. This workshop aims to present evidence on the role and updates of the IHR as a framework for global health preparedness. It will do that by exploring the main components of the IHR and their practical implications for public health practice, with particular emphasis on their function in preventing, detecting, and responding to cross-border public health threats. The workshop will feature four short presentations, in a total of 15 minutes, beginning with three presentations showcasing the findings of literature reviews covering various aspects of the IHR. These topics include the main challenges to implementation, the effectiveness of the IHR during the COVID-19 pandemic, its relevance to travel medicine and zoonosis prevention, and strategies for controlling vector-borne diseases. The last presentation will delve into the challenges and opportunities associated with implementing the IHR at both national and international levels, in the context of the proposals from the Working Group on Amendments to the International Health Regulations (2005). Throughout the workshop, emphasis will be placed on understanding how the IHR facilitate collaboration and coordination among countries during health emergencies, as well as the importance of capacity-building, information sharing, and multisectoral collaboration. This structure will allow for discussion aimed at areas for improvement to the IHR, especially in the context of its revision process and global health governance. We believe the added value of this workshop will be creating a platform for critical analysis and dialogue, sharing insights into the evolution of the IHR, ongoing debates, controversies, and emerging trends in global health regulations.

Key messages:

- This workshop provides a platform for in-depth exploration of the IHR's role in global health preparedness, offering evidence on its components and practical implications.
- Through analysis of challenges and discussions on disease control, attendees will engage in critical dialogue aimed at improving the IHR and enhancing global health governance.

Abstract citation ID: ckae144.765

Implementation of the international health regulations – global challenges and the COVID-19 pandemic

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The International Health Regulations (IHR) govern how 196 countries and the World Health Organization (WHO) collectively manage global disease spread while preserving international travel and commercial trade. The COVID-19 pandemic set an unprecedented challenge to the IHR commitments. To address this gap, two scoping reviews were conducted: one identifying global challenges in IHR implementation and the other analyzing challenges, successes and limitations of the IHR during the COVID-19 pandemic. The scoping reviews followed Arksey and O'Malley's framework and PRISMA methodology, utilizing the PubMed, Medline, World of Science, SCOPUS, and Google Scholar databases, plus backwards citation chaining. Data selection and analysis were guided by pretest forms. From 128 articles screened, 52 met inclusion criteria for the IHR implementation review. 135 challenges were identified, in these categories: (1) requirement of financial and technical resources, (2) lack of enforcement and accountability mechanisms, (3) need for rules clarification, (4) deterrents to reporting, (5) inadequate governance, (6) insufficient cooperation between countries, (7) sovereignty issues, (8) scarcity of guidance and technical support from WHO, (9) lack of inclusion of roles for relevant non-state actors, (10) conflicts and emergencies. In the COVID-19 review, 15 articles were included. Although the role of the IHR during Health Emergencies was acknowledged, most countries faced limitations in its implementation during the pandemic. Key lessons included reinforcing the global health security strategy, reviewing the IHR to address current challenges and strengthening countries and states' commitment to resolutions compliance. The ongoing debate over IHR updates confirms the need for its revision to safeguard global health. A more effective response grounded on the IHR is needed to face upcoming and expected events of COVID-19's magnitude and severity.

Abstract citation ID: ckae144.766
International Health Regulations' role in zoonosis prevention, and intersection with travel medicine

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Trade interferes with the number and frequency of new species introduced and the possibility of these remaining and dispersing, impacting disease transmission dynamics. The International Health Regulations (IHR) establish the need to ensure veterinary care for animals affected by infectious diseases that pose a risk to public health through isolation, treatment and the demanding of other services. Concurrently, globalisation and increased travel have reshaped disease epidemiology, and new and old pathogens threaten to up-end the balance of travel. Two scoping reviews were conducted to explore the IHR's role in animal monitoring and control and its interface with travel medicine. The scoping reviews followed Joanna Briggs Institute (JBI) framework, utilising the PubMed, B-on, Biomedcentral, ScienceDirect, Medscape, Medline, World of Science, SCOPUS, and Google Scholar databases. English publications and grey literature were included. Regarding animal control, 21 articles were analysed. Most focused-on zoonosis prevention and addressed the international context and highlighted the international significance of applying the IHR for animal monitoring and control, addressing all core capacities. As for travel medicine, other 21 articles were included, highlighting applications in vaccine management, notably for COVID-19 and yellow fever. The IHR and its core capacities are essential in the monitoring and control of animals, with the One Health approach and effort sharing being the ideal method to prevent and respond to outbreaks and pandemics of zoonotic diseases. On the other hand, there is sparse literature about the integration of travel medicine within the IHR framework. Lack of standardisation in methods to evaluate the impact of the IHR is an issue. There's a need for closer collaboration between clinical practice and legal frameworks to enhance global health preparedness.

Abstract citation ID: ckae144.767
Strengthening Global Health Security: The Role of the International Health Regulations in Monitoring and Controlling Vector-Borne Diseases

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Vector-borne diseases pose a significant global threat, with approximately 500 million reported cases annually, affecting previously unaffected regions due to climate change and increased international travel. This presentation brings insights from two scoping reviews examining the implementation and operationalization of the International Health Regulations (IHR) in preventing the spread of vector-borne diseases. The first review analysed strategies and policies adopted at continental and national levels and identified four major categories of measures: surveillance and epidemic intelligence, Declaration of Public Health Emergency of International Concern, measures in Points of Entry, and vaccination status. Surveillance systems vary widely across countries, with severe asymmetries in their implementation. The COVID-19 pandemic facilitated the adoption of screening measures and collaboration with airlines and travel agencies, highlighting the importance of early detection and response. An additional review focused on the contribution of IHR to public health action in monitoring and controlling vector-borne diseases. It emphasised the prioritisation of preventive measures related to travel and borders, including vector surveillance. Environmental changes, particularly socio-ecological and climate factors, influence the recurrence of outbreaks, creating the need for enhanced epidemic intelligence. Both reviews underscored the importance of cooperation between institutions and countries in effectively monitoring and controlling vector-borne diseases. Assessing core capacities under the IHR enables readiness levels in outbreak response to be measured, promoting concerted action tailored to each epidemiological context. As the world faces ongoing health challenges, it is imperative for State Parties to refine their core capacities in alignment with the lessons learned from the COVID-19 pandemic, ensuring a robust global response to future infectious disease outbreaks.

Abstract citation ID: ckae144.768
The IHR Journey: Past Lessons and Future Directions

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The International Health Regulations (IHR), established in 1969 and revised in 2005, represent a binding framework for 196 countries to combat global health threats. Historically, the IHR emerged in response to the need for a collective defence against the spread of infectious diseases. In the present, the IHR provides a legal structure for the World Health Organization (WHO) and its member states to report public health emergencies of international concern, ensuring a coordinated, prompt, and effective response. As we look towards the future, the IHR's role is pivotal in addressing the complexities of global health security. The emergence of novel pathogens, the risk of bioterrorism, and the impact of climate change on disease patterns call for the evolution of the IHR. Such ammendments comprise: increasing clarity on multilevel jurisdiction; defining a pandemic emergency; introducing the concept of quarantine as a public health measure; stressing a compromise and solidarity approach between States Parties; reinforcing the need for bidirectional action between the WHO and States Parties; underlining cargo, as well as passengers, as relevant for public health measures; certificate digitalisation; among others. Strengthening the IHR is essential for a proactive approach to health policy, ensuring preparedness and resilience against any health crisis that may arise, although it remains in great controversy the right balance between the respect of national sovereignty and supranational impositions over national, democratically elected governments. Calling upon this reflection aims to bridge the gap felt in most WHO's member states.

3.X.1. Health literacy in Europe: Building a comparative database for shaping public health policy

Abstract citation ID: ckae144.769

Organised by: Austrian National Public Health Institute (Austria), EUPHA-HL, WHO/Europe, JA PreventNCD
Chair persons: Robert Griebler (Austria), Christopher Le (Norway)
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Health literacy (HL) is a key determinant of health and a lever for health equity. It refers to the extent to which individuals are able to deal with health-related information, communicate with health professionals, and navigate the health care system to restore, maintain, protect, and improve their health and well-being. It is the result of an interplay between personal motivation, individual competencies and the health information and service environment. HL is strongly related to health behaviors and issues such as obesity, the social determinants of health, and the use of health systems, which have been under pressure since COVID-19. The development and implementation of targeted public health interventions to promote HL in the European Region require reliable and comparable data on population HL to identify the main HL challenges and the most affected population groups. The WHO Action Network on Measuring Population and Organizational Health Literacy (M-POHL) has started monitoring population HL and conducted the first M-POHL Health Literacy Survey (HLS19) in 17 countries in the WHO European Region between 2019 and 2021. In preparation for the 2nd M-POHL Health Literacy Survey (2024-2026; HLS24), the HLS19 instruments were further improved and supplemented by a new measure on mental HL. These instruments are also of interest to the European Joint Action PreventNCD with its specific task on HL and non-communicable diseases (7.4). The workshop will provide insights into the M-POHL HLS24, the largest HL survey in Europe, and the HL instruments used. It consists of four presentations, one describing the M-POHL HLS24 project and three on specific HL instruments used to assess different aspects of HL in the European general population: HLS24-DIGI for digital HL; HLS24-COM-P for communicative HL; HLS24-NAV for navigational HL.

Each presentation will describe the revised item set and results from pretests. We invite the audience to ask questions and to engage in a (cross-cutting) discussion with the presenters. Expected impact: The presentations will provide a comprehensive overview of the advanced family of instruments used in the HLS24 study, their quality, and the expected HL data for Europe. They will provide a deeper understanding of how HL will be measured in the M-POHL HLS24 project.

Key messages:

- The advanced family of HL instruments used in the M-POHL HLS24 project enables comprehensive HL monitoring in Europe.
- The data collected in HLS24 will provide a solid database for shaping public health policy to strengthen population HL and promote health equity in Europe.

Abstract citation ID: ckae144.770
The M-POHL Health Literacy Population Survey 2024-2026 (HLS24)

Robert Griebler

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Background: Inspired by the first European Health Literacy Survey (HLS-EU) and its policy impact, the WHO Action Network on Measuring Population and Organizational Health Literacy (M-POHL) was established in 2018 under the auspices of WHO Europe to monitor and strengthen health literacy (HL) in Europe. The Health Literacy Survey 2019-2021 (HLS19) was the first project of M-POHL, focusing on both general and specific aspects of HL. The follow-up survey (HLS24) builds on this work and will provide even more comprehensive data on HL by including more countries and new aspects of HL. By also focusing on NCDs and prevention, HLS24 is a key partner in the European Joint Action PreventNCD.
Methods: The HLS24 is a cross-sectional study based on nationally representative samples of the adult population (18+) in more than 20 participating countries. The HLS24 core questionnaire includes items on general HL, sociodemographics, health behavior, health status, and health care utilization. Some countries also include questions on prevention and early detection of chronic diseases and health problems. Five optional packages (OPs) enable countries to focus on specific aspects of HL, namely digital, communicative, navigational, vaccination and mental HL.
Results: HLS24 uses a harmonized set of HL instruments that provide a solid database for health policy decisions to strengthen HL and health equity in Europe. In addition to the three OPs on digital, communicative and navigational HL discussed in the following presentations, an 11-item set on vaccination literacy and a 21-item set on mental HL are provided.
Conclusions: Covering NCDs, prevention, digital health, immunization, and mental health, the HLS24 provides important data on current health challenges and highlights the needs of the European

population regarding health information and services upon which policy and action interventions can be based.

Abstract citation ID: ckae144.771
Measuring digital health literacy in Europe – developing a new tool to capture innovation

Diane Levin-Zamir

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Background: Rapid advancement of digital resources for health and healthcare in Europe has widened the scope of opportunities to promote health, but also raises concerns about accessibility and health equity. Measuring digital health literacy (DHL) in populations is critical for assessing digital resource appropriateness in general and specifically among vulnerable populations. The DHL measure used in the M-POHL Health Literacy Survey 2019-2021 (HLS19) in 13 countries showed inadequate DHL in large parts of the population, reflecting a social gradient. As digital resources become increasingly interactive, potentially widening the digital divide, a need to refine the DHL HLS19 tool was evident.
Methods: Building on the HLS19 tool, an additional measure was developed to assess interactive aspects of DHL by representatives from 16 countries in a co-productive way, based on discussions about the diverse digital challenges. The additional scale was to be generic enough to be relevant for all countries, yet specific enough to discern the diverse needs regarding various public health/healthcare service formats across Europe.
Results: The new tool is divided into 2 parts: a scale measuring the skills to access, understand, appraise, and apply digital health information as applied and validated in HLS19, and a new set of items assessing the use and ease of use of interactive digital resources including health promotion apps, digital tools for managing health/medical conditions, navigating the healthcare system, and communicating online with health professionals. The tool has been translated into several languages and is currently undergoing piloting/cognitive testing.
Conclusions: Collaborative work among countries is essential for developing relevant measurement tools on the European level. Just as the technology undergoes rapid change, likewise tools for assessing DHL must be updated acknowledging the diversity of digital resources and needs on country levels.

Abstract citation ID: ckae144.772
Measuring communicative health literacy – a revision of the HLS19-COM-P scale

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Background: Communicative health literacy (COM-HL) is important for patients being able to actively participate in communication with health care professionals, such as physicians. The HLS19-COM-P scale was developed for measuring COM-HL in the M-POHL HLS19 survey. However, two items under-discriminated according to the Rasch model and the item set did not sufficiently capture the aspect of appraising health information. Consolidating both a long and short version into a single scale was deemed appropriate. Hence, this study aimed to develop a revised version of the COM-HL scale.
Methods: The revision and development of new items followed a Delphi process. Items that worked well psychometrically in the six-item version of the HLS19-COM-P were kept, and new items concerning appraising information were developed. The revised version of the scale has so far been translated into nine languages (BG, CZ, DE, FR, HU, IT, NO, SK, UA). Challenging translation terms underwent multiple discussions to ensure language consistency. The interpretability of items has been explored in cognitive interviews in six countries (AT, CZ, HU, IT, SK, and UA) so far. Items that were difficult to understand were revised and tested in new interviews. The evaluation of the scale's psychometric properties is scheduled for May and June 2024.
Results: The revised scale consists of eight items - two items for each of the cognitive domains of accessing, understanding, appraising, and applying health information. One item in each of these domains focuses on the interactive aspect of communication. An instruction for translation of terms that were challenging to translate has been developed. Overall, the revised HLS19-COM-P was well accepted in the cognitive interviews. Results from the quantitative testing will be presented.
Conclusions: The adapted HLS24-COM-P scale developed for the M-POHL Health Literacy Survey 2024-2026, is a short and conceptually sound instrument for measuring COM-HL.

Abstract citation ID: ckae144.773
Measuring navigational health literacy – an extension of the HLS19-NAV scale

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Background: European healthcare systems are characterized by a high complexity and intransparency. Finding one's way through the multitude of services requires navigational health literacy (NAV-HL). NAV-HL is defined as the ability to maneuver the healthcare system and deal with information necessary to do so at the system, organizational, and interactive levels. Using a newly developed scale, the European health literacy population survey 2019-2021 (HLS19) measured NAV-HL across multiple countries. To better capture the complexity of the construct and enhance scale validity, the aim was to improve it by generating additional items on the interactive level.

Methods: An international panel of health literacy experts from ten countries generated additional items that specifically covered tasks related to interactions with healthcare professionals. These skills are important for ensuring continuity of healthcare and navigating the healthcare system. The items were generated in an iterative process, translated, and tested in cognitive interviews.

Results: Four items were generated according to the four cognitive domains of the underlying conceptual model. These items concern the proficiency to: a) obtain information from health-care professionals about further healthcare services, b) understand this information and c) assess it in relation to one's own preferences, and d) use it to make decisions about further healthcare. Using cognitive interviews, the four new items have been found to be meaningful and comprehensible. Only minor adjustments were made.

Conclusions: The HLS19-NAV scale has already been successfully applied and validated in eight countries of the HLS19. The new items capturing the interactive level enhance the validity of the existing HLS19-NAV scale. The psychometric properties of the new (sub)scale will be explored.

3.X.2. Integrating trust as a key component of pandemic preparedness and resilience

Abstract citation ID: ckae144.774

Organised by: WHO
Chair persons: Brian Yau (Switzerland), Sandra Machiri (Switzerland)
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Trust is a key component of pandemic preparedness, which impacts the success of response measures during the public health emergency. Trust is built during preparedness, however the drivers and dimensions of trust are complex and context-specific. What is required is a collaborative, inclusive approach that provides a platform for communities to express their questions and concerns. The proposed workshop will begin with a presentation from a global expert on trust in the content of epidemics and pandemics and the current knowledge about how trust can be built during preparedness. This will be followed by interactive group-work, designed to encourage collaborative discussions and decision-making. Finally, introducing the WHO Hive digital platform that provides a safe space for public health communities to share information and ask questions. Attendees will then reconvene in plenary to discuss these approaches and interventions that can be implemented to build and maintain trust prior to and during an epidemic or pandemic.

This workshop has the following objectives:

1. To demonstrate how trust is an important determinant of successful pandemic response; 2. To enable attendees to explore how the implementation of public health and social measures, infodemic management and digital community partnerships and engagement can build trust during pandemic preparedness for both online and offline communities; 3. To provide opportunity for attendees to workshop how the different features of the Hive digital space can enhance trust building, and to develop actionable strategies for health emergency preparedness, response and resilience.

The workshop will deliver these objectives through an interactive simulation activity. Attendees will be placed into small groups to work through a scenario, having to decide on the actions that need to be taken, considering budget constraints, other health priorities, and the current local context. The teams will co-create actionable strategies for building and maintaining trust. While there is not a one size fits all approach to trust building, this workshop will aim to increase understanding of the drivers and determinants of trust to encourage participants to consider how they can be applied in their local context. It will be interactive and hands-on requiring active participation from participants.

Key messages:

- Trust as a construct is an important component of pandemic preparedness and readiness that impacts on response.
- A multidimensional approach to building and sustaining trust needs to considered across a range of drivers and determinants, where actionable strategies are vital.

3.Y.1. Genomics in EU Health Systems: Navigating the Opportunities and Challenges for Personalized Health

Abstract citation ID: ckae144.775

Organised by: EUPHA-PHG, -EPI
Chair persons: Roberta Pastorino (EUPHA-PHG), Péter Pikó (EUPHA-PHG)
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The rapid advancements in genomics research offer significant promise for revolutionizing healthcare, potentially reshaping how we approach disease prevention, diagnosis, and treatment. However, unlocking the full potential of genomics requires more than just scientific breakthroughs-it necessitates translating these discoveries into clinical practice. This involves bridging the gap between research and healthcare implementation, addressing challenges such as technical infrastructure, ethical and legal frameworks, healthcare professional competencies, and citizen engagement. As we navigate the evolving landscape of individualized patient care, it becomes increasingly crucial to implement effective risk stratification methodologies and personalized preventive measures. Among these methodologies, polygenic risk scores are gaining prominence. However, the adoption of these innovations necessitates careful consideration of their clinical utility, including their feasibility, cost-effectiveness, and acceptability in diverse healthcare settings. Validating these approaches from multiple perspectives is essential to ensure their effectiveness in real-world clinical practice. Integrating genomic sequencing data with health records presents an invaluable resource that can enhance patient outcomes and drive further research. The creation of infrastructures and initiatives such as those carried out by projects like the European Health Data Space and Genomic Data Infrastructure are fundamental to unleash the enormous potential of data-driven innovation. To date, the implementation of genomics in medical practice varies across European countries, with discrepancies in adoption levels across different aspects of healthcare, including prevention, diagnosis, and personalized treatment. Addressing these disparities and promoting standardized approaches to genomic medicine implementation are crucial steps toward ensuring equitable access and maximizing the benefits of genomics for all individuals across Europe. This workshop aims to provide decision-makers, healthcare professionals and researchers with a comprehensive overview of the state-of-the-art for the adoption of personalized approaches, and of the maturity of genomic medicine practices within different healthcare systems as well outlining the benefits of data accessibility for research. The speakers are coordinators and partners of EU projects as B1MG (Beyond One Million Genomes), Prophet (A PeRsOnalized Prevention roadmap for the future Healthcare), EHDS (European Health Data Space), GDI (European Genomic Data Infrastructure), GoE (Genome of Europe) and CanHeal.

Key messages:

- Genomics has the potential to improve health outcomes.
- Equal access to genomic medicine critical for personalized health. Ensuring equity, while considering feasibility.

Abstract citation ID: ckae144.776
The state-of-the-art and barriers for the adoption of personalised prevention in Europe and beyond

Stefania Boccia

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Personalized prevention is a priority of the European Commission's research agenda, exemplified by the EU-funded project 'a PeRsonalised Prevention roadmap for the future HEalThcare' (PROPHET), a coordination and support action of the International Consortium for Personalized Medicine. It aims to bolster health systems in implementing innovative, sustainable, and high-quality personalized strategies to prevent chronic diseases. In this context, a scoping review was conducted to map personalized preventive approaches (PPA) for chronic diseases and obstacles to their adoption worldwide. The review followed the Arksey-O'Malley guidelines and was conducted from January 2017 to December 2023, on PubMed, Web of Science, Scopus, and grey literature. Eligible studies were primary reports and guidelines, while for the barriers to their adoption we included literature reviews. We included 120 documents on approaches and 34 reviews on barriers. Among the former, 251 PPA were identified: 69% on cancer, 21% on cardiovascular diseases, and 10% on neurological, psychiatric, and metabolic diseases. Furthermore, 27% were on primary prevention, using omic biomarkers to predict disease risk and guide preventive strategies; 27% on secondary prevention, using genomics to guide screening programs; 46% on tertiary prevention, using pharmacogenomics or targeted therapies to prevent disease complications. Among the 34 reviews on barriers, the majority were about the lack of clinical utility evidence and research needs, ethical and legal issues, and limited knowledge among health professionals, citizens, and patients. The majority of the barriers (76%) were referred to primary and secondary prevention, consistent with the low rates of existing approaches in these areas. Ongoing efforts show promise for tailoring prevention strategies, but further research and integration are needed to maximize their potential in improving population health and reducing chronic disease burdens on health systems.

Abstract citation ID: ckae144.777
Implementation of polygenic risk scores in secondary prevention of (breast) cancer

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Utilizing polygenic risk scores to inform secondary prevention of breast cancer via population screening programs is one of the pioneering applications of genomics in public health applications. Over the last decade, polygenic risk scores for breast cancer have been developed and validated in various European populations (AUC ± 0.63, OR per Z unit ± 1.6, depending on the population). In some countries, the polygenic risk score has been integrated with decision modeling tools, such as CanRisk in the Netherlands, and low-level implementation into health and care systems has started. Implementation strategies vary, but generally consider initial implementation into high-risk populations, such as breast cancer families, in specialized clinical setting, such as academic medical centres, or specialized cancer clinics, referring relatives of patients to population screening based on comprehensive risk modelling, including polygenic risk scores. This route may be followed by other disease fields as well. The presentations outlines the current evidence and considerations on breast cancer genetic risk modelling, clinical pilot studies and the outline of step-wise implementation of such models to benefit secondary prevention programs. We start from the perspective of a single hospital, to the needed steps to upscale to national populations, both in diversity of these populations, as the throughput of genetic testing and counselling, until the harmonization and recalibration of various European healthcare models. We draw from examples of the Genotyping on all patients (GOALL), building cancer health platforms (CanHeal) and Genome of Europe (GoE) consortia.

Abstract citation ID: ckae144.778
The 1+Million Genomes Maturity Level Model for Genomics in Healthcare

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The 1+Million Genomes Initiative (1+MG) has been fostering reflection in European countries on their national strategies for genomic medicine, and how these can contribute to research development and improved medical practice. For all citizens to truly benefit from genomic medicine, there must be equitable access across Europe. However, European countries are currently at different stages of implementation of genomics in medical practice. To bridge these gaps, health decision-makers need to understand the maturity of genomic medicine practices in their healthcare systems, to make informed decisions about investment, resources, and practices towards optimized adoption of genomics in healthcare systems. This presentation will focus on the 1+MG Maturity Level Model (MLM), developed in the context of the 1+MG Initiative and B1MG project. This MLM was created as a tool for countries to self-assess the maturity of genomic medicine practices in their healthcare systems, and to define a path to optimization. The MLM content was validated through a Delphi survey with international genomics and public health experts, and a pilot in real-life settings was conducted in eight European countries. The 1+MG MLM pilot provided valuable insights regarding common strengths, weaknesses, and asymmetries across Europe, highlighting the need for national and cross-European investments to close existing gaps, and make personalised medicine accessible to all citizens and patients in Europe.

Abstract citation ID: ckae144.779
Benefits of cross-border access to human genomes at scale for research and healthcare

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Genomics data will soon be routinely generated and integrated into national healthcare systems. To maximise the potential of genomic medicine, data should be accessible for research where possible. This is the remit of ELIXIR, an intergovernmental organisation that brings together life science resources from across Europe. Innovative solutions are needed to ensure the validated research findings for disease or preventative medicine are then integrated into healthcare. To tackle this, the 1+MG initiative, a joint initiative of 25 EU countries, the UK, and Norway, aims to enable secure access to genomics and the corresponding clinical data across Europe for better research, personalised healthcare and health policy making. In the design and scale-up phase (B1MG project), recommendations and guidelines to advance towards the deployment of personalised medicine at a European scale have been produced, adopted by 1+MG and developed into a 1+MG framework. This includes guidance on data governance, standards, quality and infrastructure, recommendations on how to approach citizen engagement and a tool for countries to self-assess implementation into healthcare. The European Genomic Data Infrastructure (GDI) project supports the scale-up and sustainability phase of the 1+MG initiative, to deploy infrastructure across 24 countries to support the overall ambition. Recommendations are being used to promote governance and technical interoperability across European initiatives including the European Health Data Space (EHDS), and European Cancer Image Initiative (EUCAIM). The 1+MG will be established as a European Data Infrastructure Consortia in 2025 and will act as an Authorised Participant in the EHDS providing access to a permanent high-quality federated data collection of genomic and health data that will accelerate research, innovation and policy-making facilitating the deployment of genomic medicine across Europe.

3.Y.2. Road traffic injuries, disability burden and implications for compensation schemes in Europe

Abstract citation ID: ckae144.780

Organised by: EUPHA-INJ, -SSWH, -ECO, EuroSafe/IDB network
Chair persons: Maria Papadakaki (EUPHA-INJ), João Vasco Santos (EUPHA-ECO)
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Reducing traffic fatalities and injuries is a complex challenge, but it is one that is of paramount importance for public health and safety worldwide. In recent years, there have been improvements in trauma care and injury prevention efforts, which reduced mortality rates and increased survival after serious injury. However, an increased heterogeneity in recovery times is observed with survivors of road traffic injuries differing in their adjustment compared to other traumas in terms of symptoms' onset, variability and chronicity. The recovery trajectory seems to vary widely with a large percentage of survivors in need of extensive time periods for full recovery. Attention has now been shifted towards the adverse effects of non-fatal injuries on functional, mental health, economic and societal outcomes. The capacity of a person to continue functioning, inability to work, sickness absence and reliance on welfare benefits to compensate for loss of income are some of the injury-related long-term consequences, causing great concern for health and social security systems across Europe, as they have been shown to account for more than one third of total road traffic incident costs. These figures fail to include individuals who sustain “minor” injuries, which do not require hospitalisation, yet still impair their ability to work. Despite the rapidly growing epidemiological and clinical attention, there are still several issues missing from research, policy and practice. A universal definition of recovery after a road traffic injury is still missing, and this has been seen as critical for improved understanding of risk factors of poor recovery as well as improved identification of those in need of welfare benefits. Furthermore, long-term sickness absence and disability following road traffic injury in Europe is still understudied and evidence on the different return to work pathways and compensation schemes is scarce. Evidence is still limited on the context in which return to work occurs, the injury profiles most dependent on long term compensation schemes and the policy settings of injury compensation schemes that impact return to work outcomes post injury. Data availability and data linkage issues often cause misclassification errors when granting disability pensions and this remains unattended long after an injury. Welfare benefits are often poorly connected with the injury or other medical diagnoses and this makes it difficult to assess the contribution of injuries on disability pensions and other welfare benefits, especially in comorbid and multimorbid conditions. The current workshop aims to improve our understanding of the long-term consequences and the challenges faced by those injured in road traffic injuries and aid the development of interventions that seek to enable sustained recovery, and help inform policy and practice of healthcare and injury compensation systems.

Key messages:

- Timely access to quality healthcare, rehabilitation therapies, and assistive technologies can significantly improve outcomes and reduce the strain on social security and compensation systems.

- Ensuring equitable access to social security benefits for injured individuals, requires efficient compensation schemes that recognize the full impact of the disability on individuals' life.

Abstract citation ID: ckae144.781
Health loss after road transport injury – new perspectives

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Background: Health loss in the road transport system is a major public health problem. Globally, about a fifth of all fatalities within the road transport system are represented by pedestrians, and bicyclists are the group with the highest number of severe injuries in the EU. Here we strive to add new perspectives of health loss in different road user groups examining sickness absence (SA) and disability pension (DP) and in the case of injuries after car crashes also relating them to permanent medical impairment (PMI).
Methods: Several register-based studies were conducted, based on microdata linked at individual level from several Swedish nationwide registers. In one study information about PMI from the insurance company Folksam was also used. In the main analyses we included all working individuals aged 20-59 years injured in a road traffic accident (pedestrians, bicyclists, car occupants, and other road users) in 2015 in Sweden and population-based matched references without any traffic-related injury. Diagnosis specific SA and DP were assessed during 1 year before and 4 years following the accident.
Results: A third of the traffic-related accidents involved bicyclists, 31% car occupants, 16% pedestrian, and 19% were other accidents. The excess SA days/year was elevated for all road user groups the whole study period. Excess SA due to injury diagnoses was 15-35 days/year during the first year following the accident. Among individuals injured in a car crash that reported the injury to Folksam, 2% had a new DP 2 years after the crash, and 8% had injuries resulting in PMI. A distinct trend showed that the proportion granted DP increased with increasing PMI grade.
Conclusions: Sickness absence is a common outcome among individuals injured in the road transport system. Together, these studies highlight the importance of preventing not only fatalities in the road transport system but also non-fatal injuries.

Abstract citation ID: ckae144.782
Statistics on disability pensioners is important for assessing injury burden

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Introduction: We have little information about long term effects of injuries resulting in disability. In addition to human suffering and reduced quality of life, these consequences of injuries inflict a heavy burden on the national economy. All persons in Norway aged 16 - 66 years are entitled to disability pension benefits from the National Insurance Administration (NIA) if their working capacity is permanently reduced by at least 50 % due to disease, injury or defect. The burden of injuries in terms of "New disability pensioners" (NDP) related to traffic injuries was assessed in a study for the years 1992-97 and in a follow up study for 2005-12.
Methods: Each year, a number of persons will be registered as NDP in the Disability register of NIA. Between 1992 and 2012 accident types were classified by an additional code, one of them denoting traffic injury. To calculate rates, the number of NDP are related to the number of persons in Norway on the 1st of January minus the number of persons holding a disability pension at that time (risk population) and are shown as NDP pr 100 000 of the risk population.
Results: The rates for NDP due to traffic injuries increased from 16.8 in 1992 to 23.0 in 1997, an average annual increase of 7.4 %. These rates were compared with the mortality rates in the age group 15-64 years due to traffic injuries from 1988-1993. The average time lag between an injury and getting a disability pension is 4 years. These rates were 9.3 in 1988 and 6.4 in 1993, an average annual decrease of 6.2 %. The follow up study for 2005-2017 confirmed more or less this increasing trend in NDP due to traffic injuries.
Conclusions: The rate of NDP due to traffic injuries is increasing while mortality rates for same age group is decreasing. This might reflect that our emergency medicine now saves more and more lives, however many of them ending up as disabled. We need to get valid statistics on disability enabling us to describe the burden of traffic injuries.

Abstract citation ID: ckae144.783
Analysis of traffic injury trends, and strategies for road safety promotion in Lithuania

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Every year, about 1.3 million people die on the world's roads. The aim of the study was to analyze the mortality trends from traffic injuries, and to discuss strategies for the prevention of road traffic injuries and road safety promotion in Lithuania. A longitudinal study was conducted, and regression analysis was applied. The study showed that, when analyzing the changes in mortality from the main causes of death over 2009-2019, the greatest progress in mortality reduction was observed in the category of deaths from external causes; whereas, the number of deaths from diseases of the circulatory system did not change, and the number of deaths from malignant tumors increased slightly. In Lithuania, the death rate from traffic injuries per 100,000 inhabitants decreased significantly over a 50-year period (1971-2020) (in the whole population, and in the subgroups of men and women). In Lithuania, during the fifty-year period (1971-2020), pedestrian mortality rates decreased significantly in the whole population, and children and adolescents (0-14, 15-19, and 0-19 years). Over 1998-2020, road traffic injury deaths decreased significantly in children age groups 0-14, 15-19, and 0-19. After exploring the preventive strategies used for road safety promotion, it was revealed that the most effective results were achieved, when education, safe environment creation, and legislation with enforcement were used. It was important to create a safe engineering environment, to separate pedestrian and bicycle paths from high-speed traffic on roads, to improve the visibility of road users, to apply measures that reduce driver's fatigue, and to combat the usage of mobile phones while driving. Preventive activities were aimed at alcohol control, speed limitation, education of safe behavior of drivers, promotion of safe cars operation. The usage of safety belts and safety seats, helmets for motorcyclists and cyclists were increased through legislative and educational measures.

Abstract citation ID: ckae144.784
ProtAct-Us from serious injuries with long-term consequences

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Battling serious injuries and long-term consequences in road traffic remains one important issue in the overall goal of resilient future road transport and its Vision Zero. Challenges of increasing personal transport in urban areas coupled with autonomous vehicles and shuttles, new mobility devices and the overall need to ensure the safety of vulnerable road users as well as all types of vehicle occupants' require solid medical background knowledge paired with innovative engineering approaches. EU Horizon Europe is currently funding the ProtAct-Us consortium (2024-2027) that aims at protecting all Road User Groups from serious injury and long-term physical, cognitive and mental health consequences related to road crashes through innovatively interlinked research action between medical and engineering methods and approaches. ProtAct-Us works on the following goals and challenges: i) Medical data correlation, standardisation and classification of long-term consequences of road crashes; ii) Robust and reliable medical, epidemiological and engineering tools like agreed methods to collect information on long-term consequences, upgraded Human Body Models and virtual assessment methods for the extremities, head, neck and face allowing for effective countermeasure development for all road users; iii) Reduction of long-term consequences and related socio-economic cost of road crash related injuries for all road users. The ProtAct-Us solutions will influence new standards in respect of extending current injury codification system with relevant long-term aspects, allowing new physical as well as virtual safety assessment procedures and adaption of rules and regulations to be implemented. Finally, scientifically well-founded suggestion for future implementation into policy, regulatory, and standardization guidelines for an inclusive safety improvement approach for in- as well as post-crash will be provided.

Abstract citation ID: ckae144.785
Public-Private Partnerships: A model for injury prevention and safety promotion – Benefitting communities and NGOs

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Injuries are a leading cause of death up to 45years, and 12% of all hospital beds in Norway are dedicated to accident-related treatments. Addressing injuries poses a significant public health challenge, and preventing accidents is crucial for saving money and resources. The Norwegian Act of Public Health mandates that municipalities promote the population's health and well-being, contribute to favourable environmental conditions, and prevent mental and somatic illnesses and injuries. This is echoed in various laws and regulations, providing a supportive framework for injury prevention and safety promotion. However, translating these laws and regulations into effective policies and preventive activities necessitates collaboration across sectors and levels. To meet these demands, a public-private partnership for safety has been established through five-year cooperation agreements between the Ministry of Health, Finance Norway (Association for financial and insurance industry in Norway), and the Norwegian Safety Forum (NSF). As a non-profit organization, NSF is a national advocate for safety, specializing in home and leisure injury prevention, road safety and Safe Community initiatives in Norway.

Program Description: The collaboration aims to reduce accidents and injuries. The agreement secures basic financing for NSF and serves as a platform for knowledge sharing and competence building across sectors. It facilitates seminars and meetings to promote learning among different professions, benefiting municipalities and the public. The collaboration leverages the Ministry's resources, insurance companies' data and knowledge, and NSF's expertise to develop injury prevention programs through dialogue with communities and organizations. This model brings together private-public and NGO perspectives. It also provides enhanced possibilities for coordination on both national and community level, enhancing data and knowledge availability and strengthening capacity for safety promotion.

4.X.1. Health literacy policies – how can they be developed and implemented?

Abstract citation ID: ckae144.786

Organised by: Austrian National Public Health Institute (Austria), M-POHL
Chair persons: Christina Dietscher (Austria), Angelika Schlacher (Austria)
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In Europe and beyond, there is political recognition of health literacy being an important factor for good health and well-being. As health literacy is considered critical to achieving health and as limited health literacy is still a widespread phenomenon, the topic is steadily attracting more attention among policy and decision makers. To meet growing demand from decision makers, a policy guide was initiated by M POHL, the World Health Organization (WHO) Action Network on Measuring Population and Organizational Health Literacy. The guide aims to support awareness-raising, the building of commitment and the implementation of effective policies to improve health literacy. It mainly addresses decision-makers in health policy and administration, but may also inspire researchers and other relevant stakeholders in the health literacy area.

Objectives of the workshop: This skills building seminar seeks to contribute to capacity building and to offer time for exchange and discussion on health literacy policy work. More specifically, the objectives of the workshop are to: - provide an overview on national health literacy policy implementation; - increase the knowledge of participants on what countries are doing already and identify needs for further support; - support participants in reflecting, initiating, developing and implementing effective measures to improve population and organizational health literacy.

Methods of the workshop: The workshop will start off by a presentation introducing the guide "Health literacy policies - how can they be developed and implemented?' and sharing some national experiences in implementing health literacy policies, strategies, and interventions. After these impulses attendees will be divided into groups to enable exchange. A checklist for self-assessment will be provided as a tool to guide the discussion and to identify and address potential challenges in implementing health literacy policies and interventions. The input and identified needs will be captured. They will support M-POHL's continuing efforts to support policy makers and administrators in their work.

Key messages:

- Health literacy is steadily gaining more interest from policy- and decision-makers.
- In this seminar, participants will learn on how evidence-informed policies and practice can be supported.

Abstract citation ID: ckae144.787

A guide for policy and decision makers on health literacy policies

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Supported by supranational organizations such as the WHO or the European Union, governments across the world have begun to work systematically on developing and implementing action plans, strategies and policies to improve the health literacy of their citizens and the health literacy friendliness/responsiveness of health organizations. In 2023, a first project on evidence-based policies and practices was initiated by the WHO Action Network on Measuring Population and Organizational Health Literacy (M-POHL) and financially supported by the Swiss Ministry of Health. In this project a guide on how health literacy policies can be developed and implemented was developed by an international working group. This guide brings together insights from existing literature on national health literacy strategies, action plans and interventions, including an expert snowball search within the M-POHL network and among other partners, experiences and case examples collected from M-POHL members and other countries. Feedback on the guide was collected in interactive webinars with policy representatives and decision-makers and addressed. The structure of the guide follows an adapted version of the Public Health Action Cycle model, assisting step-by-step action on health literacy policy development: situation analysis; agenda setting; developing policies, strategies and interventions; implementation; evaluation and monitoring. Each phase is described, and best practices and recommendations provided. The guide closes with a checklist for self-assessment which follows the structure of this document. It supports reflection on the state of policies in a country. This innovative guide contributes to supporting evidence-informed policies and practice. This can be of interest to experts and practitioners who have data on challenges relating to the health literacy levels of population groups and who wish to develop or adjust their policies, services and communications accordingly.

4.Y.1. Climate trauma, public protest and the ethics of civil disobedience in our warming world

Abstract citation ID: ckae144.788

Organised by: Aletta Jacobs School of Public Health (Nteherlands), ASPHER, EUPHA-LAW, -ENV, -HIA, -PMH, -GH, Faculty of Public Health (UK), GNAPH
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Eco-anxiety, defined as "a chronic fear of environmental dooms," is related to both a direct experience of extreme weather events (e.g., floods, wildfires, hurricanes, droughts) as well as environmental changes. Although it is not yet being addressed as a proper disease, eco-anxiety is being related to symptoms such as obsessive thoughts about the climate and the total destruction of the planet, existential fear and feelings of guilt about one's own carbon footprint, anger, frustration, depression, and anxiety, among others. Eco-anxiety is increasingly reported among children and young people (Hickman et al, Lancet Planetary Health, 2021). Less studied and understood is climate trauma at a societal level resulting from the ever-present, ever-growing threat of climate change.This session aims to facilitate a better understanding of the mechanisms that lead to this symptomatology as well as the reasons for our apparent collective paralysis as a society to act in accordance with the climate threats we face. This analysis will take into account aspects linked to cultural diversity and structural factors that can rationalise the inaction. Particularly following the COVID-19 pandemic, many states have introduced or strengthened laws restricting the right to protest, with implications for public protest about state inaction on climate change. The workshop also aims to address questions such as: Are public protest and civil disobedience rational responses to the climate crisis? Should health professionals protest publicly? How has eco-anxiety been used as a legal defence to criminal charges? How should professional accreditation bodies respond when a member is convicted in a climate protest? Is deregistration appropriate, or should we instead be hastening to revise professional codes of ethics and public health training curriculums to reflect 'the single biggest threat facing humanity'? (WHO, 2021). In the United Kingdom, the UK Health Alliance on Climate Change has urged the General Medical Council 'to be as lenient as the law allows' with health professionals convicted of offences resulting from their protests against damage to nature, the climate, and health. Three expert panellists in mental health, law and ethics will present their perspectives in Pecha Kucha format.

Key messages:

- Climate trauma at societal level may account for our collective paralysis in the face of climate change: yet political, structural and cultural factors must not be overlooked.
- Ethical codes and training curriculums for public health professionals must be updated to reflect the evolving roles of PHP in response to climate change.

Speakers/Panelists:

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David Patterson
University of Groningen, Groningen, Netherlands
Farhang Tahzib
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4.Y.2. Building inclusive risk communication, community engagement and infodemic management strategies

Abstract citation ID: ckae144.789

Organised by: Ludwig Maximilian University (Germany)
Chair persons: Zeliha Öcek (Germany), Dilek Aslan (Türkiye)
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Public health crises have their most devastating effects on people who are marginalized due to structural vulnerability mechanisms. As a reflection of this phenomenon, the Novel Coronavirus Disease (COVID-19) pandemic as a public health crises has increased the vulnerability of groups such as refugees, asylum-seekers and LGBTQ+ individuals facing discrimination, stigmatisation, displacement, economic instability, risk environments, precarious living and working conditions among others, and health inequities have been further deepened. A critical post-pandemic task is to develop comprehensive crisis response plans that prioritize inclusivity and address diverse needs. Integral to these plans are Risk Communication (RC), Community Engagement (CE), and Infodemic Management (IM) strategies. While international organizations have provided guidelines for RCCE-IM, there is an urgent need to translate these principles into tailored, context-specific strategies that account for the unique circumstances and requirements of diverse groups. The aim of this workshop is to reflect the lessons learned from the COVID-19 pandemic to strengthen the RCCE-IM strategies, using the cases of migrants and LGBTQ+ people, two groups who are intensively influenced by structural vulnerability mechanisms. The first 20 minutes of this workshop will feature four short presentations. First, the concepts of RCCE-IM will be defined, followed by an explanation of why related strategies should differ for vulnerable groups. The second presentation will focus on the issues that LGBTQ+ people faced during the COVID-19 pandemic, as well as their specific RCCE-IM needs. The third and fourth presentations are based on a collective project taking an expert perspective on the RCCE experience with migrants during the COVID-19 pandemic. Firstly, the extent to which the RCCE actions in Munich, Germany, has been able to include asylum-seekers and areas for improvement will be presented. This will be followed by a presentation on recommendations to enhance RCCE of the experts who were working with undocumented migrants, unaccompanied minors, and newly arrived refugees in Malmö, Sweden. In the final part of the workshop, participants will be invited to provide brief recommendations on the operationalization of international RCCE-IM principles across four key thematic areas: 1) Rapid adaptation of RC materials to culture and context, 2) Trust-building in crisis, 3) Navigating sociocultural and linguistic diversity, 4) Addressing LGBTQ+ migrants in RCCE activities.

Key messages:

- Addressing vulnerable groups in (public) health and humanitarian crises using RCCE-IM strategies are needed to leave no one behind.
- To conduct inclusive RCCE-IM activities, cities need to address structural vulnerabilities, identify different needs and context-based strategies, and integrate various sectors and perspectives.

Abstract citation ID: ckae144.790

Addressing vulnerable groups in (public) health and humanitarian crises using RCCE-IM strategies

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Background: Vulnerable groups, including older people, infants and children, women, people with disabilities, migrant populations, individuals with marginalized sexual and gender identities, etc., become more fragile in public health and humanitarian crises. These groups' vulnerability limits their access to health care and other services. Labeling, stigmatization, stereotyping, and other negative consequences contribute to the burden. Concurrent with the motto of the World Health Organization, "Leaving no one behind,' it reminds us of the need for equality and equity-based models to reach these vulnerable groups in such crises.

Methods: Existing scientific literature and perspectives were synthesized.

Results: Novel Coronavirus Disease (COVID-19) contains various experiences. Since the pandemic, the need for interdisciplinary approaches and strategies has become more apparent based on the complexity and intersectionality of the determinants of the crisis. In this regard, Risk Communication (RC), Community Engagement (CE) and Infodemic Management (IM) strategies before, during, and after crises might be used to respond to and mitigate the hazards. Preparation plans before the crisis are almost the most effective intervention. However, "during" and "after" crises need considerable steps of RCCE-IM as well. Listening to the concerns of the vulnerable populations, avoiding discriminatory language, providing correct and timely information, using effective communication strategies, using tools to build resilience, and engaging with the community should be built and/or strengthened among the vulnerable groups.

Conclusions: Addressing structural vulnerabilities with public and global health perspective might provide us with more sustainable and efficient solutions. In this presentation, answers will be provided on how to use RCCE-IM strategies in structural vulnerability and the strengths and weaknesses of the system with the proposed solutions based on the global situation.

Abstract citation ID: ckae144.791

Improving RCCE-IM for LGBTQ+ migrants: Lessons learned from COVID-19 Pandemic

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Background: To foster equity during a pandemic event, public health practitioners must be mindful of social and political circumstances that inform poor health. This is especially true for populations who are exposed to several factors that structure health inequity, such as lesbian, gay, bisexual, transgender, or otherwise queer identifying (LGBTQ+) populations. We aim to report on the specific challenges of LGBTQ+ people, including those who belong to the migrant communities, during the COVID-19 pandemic and find out their needs in risk communication (RC), community engagement (CE) and infodemic management (IM).

Methods: We will first review findings of studies conducted in Portugal, UK, Italy, Brazil, Chile, and Sweden, between 2020-2023, in the context of "Project Global Queerantine", then report on the additional challenges that LGBTQ+ people faced when living in migrant communities.

Results: LGBTQ+ individuals perceived their psychological well-being to have been greatly affected by the pandemic. Stressors included fear of the disease itself, and fear of spreading the virus, as well as the negative consequences of adhering to the recommendations of social distancing, which constantly interplayed with the marginalized position of being a LGBTQ+ person. Limited access to the LGBTQ+ community was a common stressor for trans individuals who faced prolonged waiting times for "gender dysphoria" assessment and hormone treatment. The intersectionality of vulnerability mechanisms experienced by LGBTQ+ migrants exacerbated all these issues, as did challenges in accessing and comprehending COVID-19-related information.

Conclusions: During health crises, it is critical for RCCE-IM efforts to consider the increased mental health issues and disruption of social support networks that LGBTQ+ people may face. Strategies and examples of good practices for RCCE-IM that are specifically tailored to LGBTQ+ migrants will be developed in collaboration with the workshop participants.

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Risk communication with asylum-seekers: Insights from the COVID-19 Pandemic experience in Munich

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Background: The COVID-19 pandemic has created a 'double crisis' for asylum-seekers, whose lives were already in crisis. Many reports indicated the syndemic consequences on asylum seekers' health, underscoring the need for their inclusion in risk communication (RC) and community engagement (CE) and infodemic management (IM) actions. This study aims to describe RCCE experience with asylum seekers in Munich during the COVID-19 pandemic from an expert perspective and thus gain a thorough understanding of the requirements for inclusive RCCE.

Methods: Our qualitative study involved people who conducted COVID-19-related RCCE for asylum-seekers. Volunteers/workers of civil society organizations and health professionals were interviewed using purposeful sampling. After reviewing international guidelines, an interview form was created. The content analysis resulted in themes and categories.

Results: Four of the interviewees were health managers, while 8 were working in civil society organizations. The first category of the results describes the context in which RCCE occurs; syndemic factors (uncertainty; social exclusion and stigma; precarious housing; limited access to healthcare and unmet mental health needs) and pandemic management. The second category includes determinants of RCCE from both the asylum-seeker (trust; risk perception; health literacy; language; culture and gender) and RCCE member (competences; overburden; continuity) standpoint. The third category focuses on various RCCE-IM measures, including their effectiveness and consequences.

Conclusions: Syndemic factors hampered the effective implementation of RCCE for asylum seekers in Munich. RCCE determinants show that pre-crisis actions are necessary for an effective response and individual interactions should accompany community-level activities, particularly for female and marginalised migrants. This study's scope will be expanded by incorporating the IM component.

Abstract citation ID: ckae144.793
Risk communication with migrants: Lessons learned from the COVID-19 Pandemic experience in Malmö

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Background: During the COVID-19 pandemic, many migrants faced challenges in accessing, comprehending and implementing information, leading to mis- and disinformation and distrust. The pandemic underscored the importance of effective risk communication (RC) and community engagement (CE) that reaches all segments of society, both for managing health effects and preventing the reinforcement of discrimination and stigmatization. This study aims to describe the experience of RCCE targeting migrants in Malmö, Sweden, from an expert perspective. Further, to gain an in-depth understanding of the requirements for inclusive RCCE actions and to identify alternative or complementary strategies based on good local practices.

Methods: Individual interviews were conducted with experts representing civil society and public authorities who were purposely sampled based on their engagement with RCCE targeting migrants. The interview guide was based on a review of international guidelines addressing aspects of RCCE, and analysed with content analysis.

Results: Three key organisations working towards undocumented migrants; unaccompanied minors; and newly arrived refugees, respectively, were included. Findings are synthesized into three key insights: a) RC through trusted sources in safe spaces; b) Understanding migrant living conditions c) Promoting intersectoral collaboration and feedback loops. Experts underscored the importance of cultivating sustainable and relationships with migrant communities to effectively communicate, aiding in compliance and counter distrust. The significance of intersectoral collaboration and communication pathways was highlighted for assessing migrant specific needs and designing appropriate interventions.

Conclusions: Long-term trusting relationship facilitate RC. Embedding sustainability within intersectoral collaboration structures is imperative to facilitate swift mobilization during health crises, foster resilience, and counter health inequities.

5.X.1. Co-designing for policy impact: Belgium's monitoring & evaluation framework for cancer care & control

Abstract citation ID: ckae144.794

Organised by: Sciensano (Belgium), EUPHAnxt, EUPHA-PHPP
Chair persons: Damir Ivankovic (Netherlands)
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Cancer is one of the main public health challenges, and the second leading cause of mortality in the EU. It is Belgium's second leading cause of adult death after circulatory diseases and has been an increasing burden of disease in recent years. Recognizing the urgency of tackling the entire disease pathway, the European Commission (EC) has launched Europe's Beating Cancer Plan (EBCP), a policy-driven strategy, and the Mission on Cancer, a research-focused undertaking. In Belgium, Sciensano's Cancer Centre has been charged with the coordination and implementation of these programs, pioneering the setup of a dedicated structure to coordinate them. While Belgian public, academic, private and non-for-profit entities have been highly involved in these EU initiatives since their launch, there is currently no mechanism to monitor the impact of EBCP's uptake and implementation in Belgium. Moreover, in contrast to the investment and momentum at the European level, the last Belgian Cancer Plan dates from 2008, with its most recent evaluation being published in 2013, highlighting an important gap. To address this gap, the Cancer Centre was asked by the Federal Cabinet to develop a new monitoring and evaluation (M&E) framework for cancer care and control in Belgium. With a view to avoiding traditional top-down approaches, it was decided that the framework would be designed co-creatively, by engaging patients and experts in the field. The aim was to enable the iterative and flexible monitoring of Belgian policies related to the EBCP's implementation, while generating buy-in from stakeholders. To achieve this goal, a modified Delphi process was used, with complementary qualitative data collection in the form of focus group discussions with experts across the cancer continuum. A Steering and Patient Committee were put in place to provide stewardship over the process, and based on their feedback, additional patient workshops were run to ensure M&E priorities for patients were taken into account. The framework will cover the entire spectrum of cancer prevention and control, as well as transversal themes such as inequalities and patient-centeredness. It will also anticipate future evolutions and undergo adjustments when needed. This workshop will use a Pecha Kucha approach, with panelists sharing insights from the Belgian case study. The session will guide the audience through a story of the strengths and pitfalls of co-creating an M&E framework in the field of public health monitoring. Topics covered will include challenges of monitoring cancer care and control policies, approaches taken in Belgium to overcome these challenges, and the importance of involving diverse stakeholders in the process. A moderated discussion will allow participants to share their perspectives and ask questions. Attendees will walk away with a real-world example on how to challenge top-down paradigms of population-level M&E frameworks and identify transferable elements for adaptation in their own settings.

Key messages:

- Europe's Beating Cancer Plan (EBCP) provides opportunities to tackle the second leading cause of disease in the EU but will require innovative approaches to monitor uptake and impact.
- Development of Belgium policy-actionable monitoring & evaluation framework shows how co-creation can challenge top-down paradigms in public health monitoring and assess the uptake and impact of EBCP.

Speakers/Panelists:

Gabrielle Schittecatte
Sciensano, Brussels, Belgium
Jinane Ghattas
Sciensano, Brussels, Belgium
Robbe Saesen
Sciensano, Maaseik, Belgium

5.X.2. Improving indoor air quality: a public health challenge

Abstract citation ID: ckae144.795

Organised by: K-HEALTHinAIR Consortium
Chair persons: Amy van Grieken (Netherlands), Jose Fermoso (Spain)
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Indoor air quality (IAQ) may have a profound effect on a person's physical and mental health and well-being. The Knowledge for Indoor Air Quality and Health (K-HEALTHinAIR) project (grant no 101057693) is an interdisciplinary European research project that brings together 15 partners across 8 countries to study the sources, determinants and health outcomes related to IAQ. We aim to increase knowledge and provide input for more accurate monitoring and interventions, promoting healthy indoor air quality across several public health settings. The main aim of this workshop is to engage the public health community in the relevance of IAQ as a public health concern. We will share the innovative and new methodologies applied in the K-HEALTHinAIR project to study IAQ and health and discuss opportunities as well as challenges in this field of research to support shared learning. This workshop highlights IAQ pollutant sources and determinants, seasonal variation in IAQ, older people's IAQ and health, and presents the project's open access platform that is developed to share knowledge. We will zoom in on the evidence available for the sources and determinants of exposure to indoor air pollutants. This activity, a systematic review, was fundamental to identify the gaps of knowledge and guide the preparation of data collection tools. It also depicts the main pollutants present in indoor settings and the respective sources and determinants of exposure. Then, one of the 9 public health scenarios studied in the project is presented. We will focus on the first results regarding (determinants of) IAQ variation in primary schools at several locations in Poland. Next, the pilot study in older people living in senior homes in the Netherlands presents first findings of IAQ and health data in this vulnerable population. Finally, the project will deliver an open-access platform aiming to be the one-stop-shop for IAQ Knowledge. The user-profiles identified are presented. At the end, the workshop participants will be up to date on the project's activities, its relevance for public health and the open access platform via which all output will be shared. Participants will leave with increased understanding of public health research needed to further study IAQ and its impact on health and well-being.

Key messages:

- Indoor air quality is a public health concern impacting health and well-being, especially in vulnerable populations such as children and older people.
- The K-HEALTHinAIR project is a multidisciplinary research project in which innovative methodologies are applied to increase knowledge on indoor air quality and health.

Abstract citation ID: ckae144.796
Sources and determinants of exposure to indoor air pollutants in schools and hospitals: a review

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Background: Indoor Air Quality (IAQ) is an important determinant of health. This study aimed to review the available scientific evidence about indoor pollutants and determinants of exposure in several settings, in the scope of the K-HEALTHinAIR project.

Methods: The systematic review was performed for the sources, concentrations, and determinants of pollutants in schools in the European region for 2013-2023. Articles were selected for data extraction if they were epidemiological studies, reported primary data for indoor air and pollutant levels, and, identified sources and determinants of exposure.

Results: The main pollutants affecting IAQ in schools and hospitals were carbon dioxide, volatile organic compounds (e.g., formaldehyde, terpenes), particulate matter, nitrogen dioxide, radon, ozone, and carbon monoxide. Besides the outdoor environment, several important indoor sources of emissions were identified such as occupancy, resuspension, cleaning products. Ventilation was the main determinant influencing the indoor levels of pollutants, stressing the importance of good planning, installation, and maintenance of mechanical ventilation systems in buildings. Other determinants were the number of occupants and their activities, and the building characteristics (e.g., type of floor, location, etc).

Conclusions: Results revealed indoor air quality as a public health concern since several pollutants are present in indoor settings. The identification of sources and determinants of exposure is fundamental for determining preventive measures in a public health perspective.

Acknowledgments: K-HEALTHinAIR team for screening and data extraction: Mariana Corda, Jose Fermoso, Alicia Aguado, Sandra Rodriguez, Hanns Moshammer, Mireia Ferri, Belén Costa, Leticia Pérez, Wojciech Hanke, Artur Badyda, Piotr Kepa, Katarzyna Affek, Nina Doskocz, Laura Martín, Oguz Mulayim, Cesar Mediavilla Martinez, Alba Gómez, Ruben González, Isaac Cano, Josep Roca, Simon de Leede.

Abstract citation ID: ckae144.797
Schools and Indoor Air Quality: seasonal variation

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Background: Indoor Air Quality (IAQ) in schools is a public health concern, given the vulnerability of children as a demographic group and substantial amount of time that they spend in (highly occupied) classrooms. Conditions specific for school buildings, as well as location and outdoor air quality (OAQ), can adversely affect IAQ and children's health. The aim of this study was to examine the seasonal variation in IAQ and the influence of OAQ herein in primary schools.

Methods: Sampling was carried out in summer and winter in 5 schools in central Poland. A culture-dependent method using impactors was applied to examine the total number of bacteria and fungi. Gas chromatography with flame ionization detector (quartz filters for sampling) was applied to determine concentrations of 16 polycyclic aromatic hydrocarbons (PAHs), crucial for their health impact.

Results: In poorly ventilated classrooms bacteria levels exceeded that of fungi. Bacterial contamination decreased in efficiently ventilated rooms, and before/after the lessons. In summer fungi concentration in indoor air was higher than in winter and reached the level of fungi outdoors. PAHs concentrations (especially those with 4 and more rings, which are biologically active) and the mutagenicity and carcinogenicity equivalents were elevated in winter and related to changes in concentrations in outdoor air.

Conclusions: IAQ in schools depends on a season. Occupants in classrooms are the main source of bacteria, but the type and number of microorganisms also depend on ventilation conditions. PAHs characteristic of coal/wood combustion indicates that in the absence of internal emission sources, external sources most likely affect IAQ in schools in winter.

Abstract citation ID: ckae144.798
Indoor Air Quality and health of older people: a pilot study

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Background: Older people often experience one or more chronic conditions, including respiratory conditions. Indoor air quality may (IAQ) may elevate symptoms of respiratory disease such as coughing. Consequently, people may experience a lower Health Related Quality of Life (HR-QoL). The objective of the Rotterdam K-HEALTHinAIR pilot site is to study IAQ and health among elderly: this study presents the design of the study and preliminary baseline results of IAQ and health.

Methods: A observational study is performed among $n = 110$ older people living in the broader Rotterdam-area, the Netherlands, recruited via opportunity sampling, hospitals and senior-residential corporations. Participants provide informed consent to participate in the study. IAQ is assessed near real-time using home sensors. An observation checklist captures environmental characteristics of the home. Participants complete a diary every 3 months and a self-report questionnaire at baseline, 6- and 12-months; measures include Health-Related Quality of Life, well-being and respiratory symptoms.

Preliminary baseline data (n = 30 baseline questionnaires, n = 25 sensors) were analyzed using descriptive statistics and regression analyses.
Results: The mean age was 74.3 (SD: 6.3). Average concentrations were 684 ppm CO2 (SD: 723), PM2.5 was 4.8 µg/m3 (SD: 34.5) and average temperature 19.9 °C (SD:1.6). In total 40.0% participants were experiencing asthma and 43.3% COPD. Participants rated their general well-being 72.6 (SD: 18.6) (0-100). No associations were observed between indicators of IAQ and participant self-rated health and health symptoms in this preliminary dataset.
Conclusions: Future data collection will allow for overtime associations between IAQ and a broad range of health outcomes. In the second and third phase of the study we aim to deepen findings and develop interventions.

Abstract citation ID: ckae144.799
K-HEALTHinAIR Open Access Platform: exploring user-profiles

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Background: There is a lack of awareness and accessible knowledge of IAQ effects on citizens' health. The K-HEALTHinAIR project is working to provide a one-stop-shop for IAQ knowledge. With this aim, partners are co-designing with representatives of the quadruple helix a unique platform to allocate data, information, and relevant resources to research and foster IAQ in Europe. This platform is envisioned to store in an accessible and friendly manner datasets of concentrations of key indoor air pollutants and health parameters, standardized Key Performance Indicators, indoor location characterization information, IAQ recommendations and regulations and analytical models.
Methods: First, a stakeholders mapping was performed in all project pilot sites to identify the platform potential users. Second, partners identified with stakeholders which information, data and resources of the project would be of interest and how to present them. Findings were summarized in user-profiles according to the quadruple helix (academia, public administration, industry, and general society).
Results: A set of resources had been identified for each user profile. Each of them will be adapted and formatted according to the users' needs before uploading it to the platform. The platform will allow users to access information according to their interest in an accessible a friendly manner. In this sense, a dashboard will be included in the website of the project for accessing the different modules of the platform: data management module and knowledge sharing module. The platform is being co-designed and will be tested in the project scenarios with representatives of the quadruple helix.
Conclusions: The K-HEALTHinAIR Open Access platform aims to be the one-stop-shop for IAQ knowledge.

5.Y.1. Refugees and mental health

Abstract citation ID: ckae144.800

Organised by: EUPHA-MIG
Chair persons: Jutta Lindert (EUPHA-PMH), Sonia Dias (Portugal)
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Research suggests an elevated risk of mental health conditions (depression, posttraumatic stress disorder, anxiety) among refugees, due to exposure to trauma, displacement, and the challenges of adapting to new environments. Children and adolescents with refugee background face additional challenges, including family disruptions, education interruptions, and uncertain futures. However, the data are heterogeneous and more detailed data are needed. To address this gap, we present data on refugee's mental health and resilience. First, data on resilience and mental health from Germany are presented. These data are adjusted for demographics and suggest that in case data are adjusted to the living situation in the host country the migrant status is less relevant. The second study presents the mental health of refugee adolescents and children in Greece. The third study presents results based on a Portuguese prospective cohort study Perinatal Health in Migrants: Barriers, Incentives, and Outcomes (baMBINO). This study investigates postpartum depression among refugee women in Portugal highlighting the need for access to care. Last, a systematic review and meta-analysis provides data on depression, anxiety and stress of 62,522 refugees from more than 30 countries. This data suggests that life experiences are critical for refugees' mental health. Based on the presentations the audience will be engaged in discussion on how to better early prevent mental health conditions in refugees.

Key messages:

- Mental health of refugees is a Public Health challenge.
- Pre- and post migration experiences impact refugees and migrants mental health conditions.

Abstract citation ID: ckae144.801
Depression, posttraumatic stress of migrants and refugees in Germany – a cross -sectional study

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Background: Research shows associations between migration status and mental health conditions (e.g., depression). Yet, few representative data on migrants' health are available. We aim to provide representative data on depression, and posttraumatic stress (PTSD) among migrants in a representative sample in Northwestern Germany.
Methods: We conducted a longitudinal study with two measurement points using a standardized assessment instrument in a representative sample of 18-65 years olds in Germany. Here we report on the baseline data. To assess socio-demographic characteristics (gender, age, marital status employment status, household income and migration status) we developed a standardized instrument. To assess depression, we used the Patient Health Questionnaire (PHQ-9), to assess PTSD we used the Harvard Trauma Questionnaire (HTQ-5). To investigate associations of migrant status with depression, and PTSD we estimated linear regression models.
Results: The analytical sample for this study includes n = 437 (male: n = 181, female: n = 256) individuals (age: M = 44.48, range: 18-65). In the total sample 15.1% (n = 66) showed symptoms of depression, and 6.5% showed PTSD (n = 26). Depression was more frequent in migrants than in non-migrants (22.1% vs. 13.4%, p = 0.043; 66.7). Crude linear regression models showed statistically significant associations between migration status and depression (B = 1.998, 95% CI:

0.831; 3.165, $p < 0.001$), and PTSD (B = 0.204, 95% CI: 0.085; 0.333, p = 0.002). However, models adjusted for gender, age, marital status employment status, household income and migration status suggested significant associations between migration status and PTSD (B = 0.136, 95% CI: 0.009; 0.263, p = 0.036), but not for depression.

Conclusions: Longitudinal data are needed to better understand trajectories between mental health conditions, PTSD and migration status. Living situation after the migration is of critical importance for mental health of migrants.

Abstract citation ID: ckae144.802
Mental health and resilience of students with a refugee background in Greece.RaRE project findings

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Background: Research highlights the mental health challenges faced by children and adolescents from refugee backgrounds due to various risk factors encountered during migration, including exposure to violence, family disruptions, insecure legal status, and educational interruptions. These factors increase the risk of psychological issues and academic difficulties. This study investigates the relationship between mental health and resilience in refugee adolescents in Greece.

Methods: The study focuses on refugee adolescents aged 12-18 from Syria, Iraq, Afghanistan, Somalia, and Ukraine, the countries with the highest numbers of school-age refugees in Greece. Data were collected from 37 refugee children, 37 teachers, 4 parents, and 19 guardians using Poisson sampling. Results are based on responses to the Strengths and Difficulties Questionnaire (SDQ) and the Child Youth Resilience Measure (CYRM), with triangulation of self-completed questionnaires from students, parents/legal guardians, and teachers. Pearson correlation coefficient was employed for analysis.

Results: We present the pairwise Pearson correlation coefficients of students' responses to psychometric tests in relation to those of teachers, along with the corresponding p-values for a two-tailed test of significance. Specifically, cor(SDQst,SDQt)=0.443 (p-value=0.006), cor(SDQst,CYRMt)=-0.341 (p-value=0.039), cor(CYRMst,SDQt)=-0.333, (p-value=0.006), cor(CYRMst,CYRMt)=0.323 (p-value=0.051). All p-values are below 0.05 or very close to it, so we reject (or we are close to) the null hypothesis of no association at 5% significance level for every case. On the contrary, we note that the corresponding coefficients between students and parents/legal guardians are all statistically non-different from 0 at 5% significance level.

Conclusions: Educators exhibit a solid understanding of students' challenges and resilience compared to parents and guardians. These promising findings support further research.

Abstract citation ID: ckae144.803
Migration and mental health: the case of postpartum depressive symptoms in Portugal

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Background: Postpartum depression (PPD) affects about 17% of healthy mothers within one year of childbirth. The etiology remains unknown, but PPD is influenced by a combination of genetic, physical, psychosocial, and obstetric factors, migration could influence the risk.

Methods: We analyzed data collected within the scope of baMBINO (Perinatal Health in Migrants: Barriers, Incentives, and Outcomes), a Portuguese prospective cohort study, aimed to investigate the maternity experiences and outcomes of migrant women, defined as foreign-born women, and compared to native women. Among the 5431 women enrolled at delivery, 3006 (55%) were considered eligible for this study and interviewed in their preferred language, within six months of recruitment. The Edinburgh Postnatal Depression Scale (EPDS) was administered during this interview, along with the Migrant-Friendly Maternity Care Questionnaire (MFMCQ).

Results: 2890 (96%) women were included in the analytical sample for this study. Among women included, 1475 (51%) were migrants or refugees. The proportions of women having EPDS scores ≥ 10 were overall greater among migrants than among native women (7.2% vs. 12.4%, $p < 0.001$) and the risk remained higher after multiple adjustment models.

Conclusions: Migration status, poor experience with maternal care and language proficiency increased the risk of PPDS and should be carefully addressed as part of perinatal care.

Abstract citation ID: ckae144.804
Refugee mental health - systematic review and meta-analysis

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Background: Mental health conditions of forcibly displaced persons are unknown as the characteristics of the population change over the years. This study aims to estimate the prevalence rates of mental health conditions among refugees (depression, anxiety and posttraumatic stress).

Methods: We conducted a systematic review using MEDLINE (Ovid), Embase, Web of Science Core Collection (Clarivate), PsycINFO (EBSCO), Sociological Abstracts (ProQuest), and PTSDPubs (ProQuest) published between 1994-2022. We set up clear eligibility criteria and developed a data extraction sheet. The risk of bias of the included studies was assessed using the Effective Public Health Practice Project (EPHPP) quality assessment tool for quantitative studies. Heterogeneity was assessed using I^2 statistics.

Results: The search yielded 4,381 records, of which 171 were included in the full-text review. 54 studies were included in the final review. These 54 studies comprised of 62,522 forcibly displaced populations (49.22% males, 50.78% females). Pooled prevalence rates for anxiety, depression, and PTSD were 36.3% (95% CI 30.0-43.2), 35.9% (95% CI 31.9-41.3), and 35.4% (95% CI 29.0-42.4) respectively.

Conclusions: The prevalence of PTSD, depression and anxiety is significant among forcibly displaced persons. Screening for mental health conditions among these populations might prove beneficial to prevent more severe mental health conditions through the implementation of early intervention strategies.

5.Y.2. Alcohol intoxication among adolescents in Italy, Belgium and The Netherlands

Abstract citation ID: ckae144.805

Organised by: EUPHA-PMH
Chair persons: Johan Bilsen (EUPHA-PMH), Guido Van Hal (Belgium)
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Excessive drinking behavior poses a significant risk to the health of adolescents and contributes to high social and health costs. It is also well-documented that engaging in risky drinking behavior at a young age increases the likelihood of developing alcohol use disorders and other mental health disorders later in life. Therefore, the timely development of adequate interventions to prevent and reduce such behavior is an important public health task. The initial step here is to gather comprehensive data on the phenomenon. Studying alcohol intoxication data among adolescents is an important source in this context. In the Netherlands, data on alcohol intoxication in adolescents have been routinely collected for several years, leading to a successful transmural framework aimed at supporting these young individuals and their parents. As countries are at varying stages in addressing this issue, the objective of this workshop is to facilitate mutual learning about effective prevention initiatives targeting problematic alcohol use in young people. The workshop will feature presentations from four studies representing three countries: Italy, Belgium, and the Netherlands. Allegra Ferrari from Italy will discuss alcohol-related emergencies among adolescents admitted to an emergency department in Genoa, emphasizing the importance of urgent interventions to mitigate adolescent alcohol use. Hanna van Roozendaal from Belgium will present data from both retrospective and prospective studies on adolescents with acute alcohol intoxication in Antwerp hospitals, exploring the feasibility of follow-up interventions. Louise Pigeaud from the Netherlands will share data from a cohort of individuals under 18 years presented with acute alcohol intoxication symptoms at an emergency department between 2015-2023 to monitor trends in admission characteristics. Finally, Guido van Hal will focus more in depth on the differences and similarities in adolescents accessing emergency care for acute alcohol intoxication in Italy, Belgium and The Netherlands. The workshop will conclude with an open discussion on topics such as the necessary data to be registered for minors with acute alcohol intoxication, the most effective methods for preventing/reducing alcohol intoxication in these age groups, and the potential transferability of the successful Dutch transmural framework to other countries.

Key messages:

- Acute alcohol intoxication and problematic alcohol use in minors can lead to significant alcohol-related issues in adulthood.
- Collecting and analyzing high-quality data can facilitate the development of interventions aimed at reducing and preventing alcohol-related issues in adolescents.

Abstract citation ID: ckae144.806
Alcohol related emergencies among adolescents admitted in a referral acute-care center for adults in Genoa, northwest Italy

Allegra Ferrari

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Background: As a result of underage drinking, adolescents have an increased risk of physical, mental, emotional, and social harm.
Methods: In order to assess the emergencies for alcohol use, data of the emergency department (ED) of San Martino Hospital - the referral acute-care center for adults in Genoa, Northwest Italy - was analyzed retrospectively. 330 records of 320 adolescents visiting the ED between 2014 and 2023 were considered.
Results: The median age of access was 16 (IQR 2), 54.8% were males, 17.4% had foreign nationalities, and the average blood alcohol concentration (BAC) was 1.8 g/L (SD 0.7), with 14.7% testing positive for other substances (6.1% benzodiazepines and 11.2% other drugs). 16.8%, 46.6% and 36.6% were assigned an emergency, urgent, and not-urgent acuity code. 2.8% had a repeated episode, 3.4% had to be removed for inappropriate behavior, 7.8% left spontaneously, 13.1% were hospitalized for additional care (5.5% in the Psychiatry ward). The average length of stay was 1.24 days (SD 5.86). Multivariable logistic regression showed that higher age, an emergency code and the use of other substances were positively associated with hospitalization [ORs 1.74 (95%CI 1.1-2.7), p 0.01; 7.1 (95%CI 2.2-22.4) $p < 0.001$; and 15.6 (95%CI 6.8-35.6) $p < 0.001$, respectively]. Admission in Psychiatry, in particular, was strongly associated with the use of other substances [OR 11.8 (95%CI 3.8-36.6), $p < 0.001$]. Multivariable linear regression showed that, in comparison with other access reasons, accidents and decreased consciousness were associated with higher BAC [beta 0.6 (95%CI 0.1-1.1), p 0.01; beta 0.8 (95%CI 0.3-1.2) $p < 0.001$]. Length of stay, however, was associated with lower BAC [beta -0.2 (95%CI -0.3 -0.01), p 0.04].
Conclusions: In Italy, binge drinking affects 120,000 adolescents aged 11-17. Our findings highlight the harm of this practice and support the need for prompt interventions to reduce the onset and prevalence of adolescent alcohol use.

Abstract citation ID: ckae144.807
Characteristics of adolescents with acute alcohol intoxication in Belgium

Hanna van Roozendaal

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Background: Binge drinking and acute alcohol intoxication (AAI) are common in Belgian adolescents, posing a risk of serious health consequences. To develop cost-effective preventive measures for problematic alcohol use in adolescents in Belgium, more insight into the background of this group is necessary.
Methods: To gain more insight into the prevalence, medical characteristics and context of AAI, a retrospective multicentre hospital chart study was performed on adolescents aged 10 to 18 years with AAI in Antwerp, Belgium from 2015-2021. Furthermore, a prospective intervention study for adolescents with AAI in Antwerp was set up in 2023, of which the first results were not yet known at the time of submission. However, these results will be presented at the conference, if available.
Results: Over the study period, a total of 1032 admissions related to alcohol intoxication occurred in 1016 patients, with a median age of 16.6 years old and a median blood alcohol intoxication (BAC) of

1.95 g/L. There was combined drug use in 10% of the cases. Only 17% of the patients received additional care after admission. These findings did not significantly change over the study period. Multiple linear regression analyses indicated that after correcting for covariates, higher age, no combined drug use and decreased consciousness at admission were associated with more severe AAI cases (higher BAC).

Conclusions: AAI is prevalent among Belgian adolescents. Therefore, better-targeted preventive measures and policies are needed. Our findings could be taken into account when developing preventive measures. However, data addressing the demographics and context of AAI were mostly missing. Therefore, a prospective follow-up study was set up in Antwerp, which started in 2023 and is still ongoing. Furthermore, this study will investigate the feasibility and effectiveness of a follow-up intervention for this group of patients.

Abstract citation ID: ckae144.808

Characteristics of adolescents with acute alcohol intoxication accessing emergency care in The Netherlands

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Background: Prevent alcohol consumption amongst minors is a major concern for national governments. Collecting comprehensive data on adolescent drinking patterns is crucial for developing effective prevention strategies. Therefore, the aim of this study is to give an overview of demographic and clinical characteristics of adolescents with an acute alcohol intoxication in the Netherlands.

Methods: This study was conducted using a cohort of adolescents aged 14-17 years presenting with acute alcohol intoxication symptoms at the emergency department from 2015-2023. Data were collected at the Reinier de Graaf Gasthuis in Delft in order to monitor trends in admissions for acute alcohol intoxication. Data on patients age, blood alcohol concentration, sex, combined drug use and reason of admission were collected.

Results: A total of 505 patients who presented themselves with symptoms of acute alcohol intoxication at the Reinier de Graaf Gasthuis were included. The mean age of patients was 15.7 years old. The mean blood alcohol concentration was 2.0‰. During the COVID-lockdown period there were statistically significant less admissions with alcohol intoxication. The distribution of sex was nearly equal with 50.3% females and 49.7% males. Combined drug use was present in 13.4% of all cases, with cannabis as the most frequent type of drugs found. The most common known reason for admission was ‘reduced consciousness’ (35.9%).

Conclusions: These findings are relevant for both the central government’s ongoing prevention initiatives and treatment strategies within hospitals. In the future, more countries should evaluate data on adolescent drinking patterns.

Abstract citation ID: ckae144.809

Differences and similarities in adolescents accessing emergency care for acute alcohol intoxication in three urban regions in Italy, Belgium, and The Netherlands

Guido Van Hal

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Background: Excessive drinking among adolescents in Western Europe is prevalent, posing significant health risks and societal costs. Early initiation of alcohol use and binge drinking are associated with adult alcohol use disorders. Collecting comprehensive data on adolescent drinking patterns is crucial for developing effective prevention strategies.

Methods: To gain insight into the demographic and clinical characteristics of acute alcohol intoxication (AAI), we analysed emergency department access data of adolescents aged 14-17 years presenting with AAI symptoms from 2015-2023. Three urban regions were included: the Reinier de Graaf Gasthuis in Delft (The Netherlands), eight combined hospitals in Antwerp (Belgium) and the IRCCS San Martino Hospital in Genoa (Italy).

Results: A total of 1841 patients with symptoms of AAI were included. The mean age of patients in the Netherlands was statistically significant younger than in Italy and Belgium (15.7 compared to 15.9 and 16.0 years old, respectively). Moreover, the blood alcohol concentration was higher in the Netherlands and Belgium compared to Italy (2.0‰ compared to 1.95‰ and 1.8‰ respectively). The distribution of sex was nearly equal in the Netherlands, while statistically significant differences were observed with a higher proportion of males in Italy (54.8%) and Belgium (56.8%). Combined drug use was lower in Belgium with 10.0%, compared to 13.4% in The Netherlands and 14.7% in Italy. The most common reason for admission was ‘reduced consciousness’ in the total population (45.2%).

Conclusions: This is one of the first international studies which combines data on AAI in minors. In the future, efforts should be made to establish a common European database where records of AAI can be stored and analysed more efficiently for prevention purposes.

6.X.1. Disentangling Long-COVID: prevalence, risk factors and impact

Abstract citation ID: ckae144.810

Organised by: Santé Publique France (France), Western University (Canada)
Chair persons: Tatjana Makovski (France), Saverio Stranges (EUPHA-CHR)
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Background: Prolonged symptoms after the acute SARS-COV2 infection significantly alter daily functioning and work ability for substantial number of people. Application of different long COVID definitions result in variable prevalence estimations, while aetiology of long COVID as well as its impact is insufficiently understood. Our workshop is set to discuss the public health impact of long COVID in the general population, to identify risk factors of developing long COVID, and stimulate dialog to advance adequate health care and public health actions aimed to reduce the impact of this condition.

Objectives and Key Questions: The overall objective is to discuss the public health impact as well as geographic variations across Europe in long COVID prevalence, major risk factors for long COVID and impact on work capacity, accounting for different population-based and hospital study settings. Specifically, the workshop will address the following key questions: 1) what are the challenges in estimating prevalence of long COVID? 2) what are the risk factors of long COVID and some of the most vulnerable population groups? 3) what is a distribution of long COVID in Europe? 4) what is the impact of long COVID on work ability?

Brief Overview: The workshop will include 3 presentations (in combined total duration of 12 min) on challenges for research and practice attributable to variability in defining long COVID, prevalence of long COVID across several European countries, risks factors of long COVID and impact on work ability. Active discussion of 13 min will conclude the session.

Key messages:

- Standardized definitions, such as WHO-PCC definition with severity thresholds would facilitate surveillance of long COVID and advance knowledge on the risk factors related to this condition.
- Understanding better the risk factors and impact of long COVID will inform more adequate screening and therapeutic strategies, and possibly anticipate effects of potential new infectious threats.

Abstract citation ID: ckae144.811
Difference in long COVID prevalence due to different definitions and long COVID related risk factors

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Several definitions of long COVID are used in research and practice what challenges epidemiological investigations. Here we present differences in long COVID prevalence accounting for several definitions and concordance between the definitions, as well as the risk factors associated with long COVID. Definitions considered were WHO post-COVID19 condition (PCC) definition with several thresholds (at least low - standard definition, moderate or strong impact on daily activities), NICE1 and NICE2 definitions (reported at least one or at least two symptoms), United States National Centre for Health Statistics, and United Kingdom Office for National Statistics definitions and perceived long COVID. Prevalence of long COVID among French adult population (N = 10 615) in autumn 2022 ranged from 1.2% to 13.4%, conditional of the definition. The concordance between the definitions was at best moderate. Next, on a smaller representative sample of a French adult population (N = 1 813) eight potential risk factors groups for long COVID were assessed in a systematic epidemiological investigation, following a conceptual model. Fifteen factors from seven groups were associated with long COVID including early-defined sociodemographic characteristics, pre-existing chronic conditions, short-term work-related factors, current socioeconomic position, health behaviours, infection-related factors, and perception of COVID-19 severity and long COVID. The likelihood of long COVID was higher for individuals with higher number of diseases and for nineteen out of twenty-six most prevalent dyads and a triad. A more standardized definition would facilitate research and surveillance of long COVID. Furthermore, long COVID should be observed as an interplay of social, medical and contextual factors rather than a mere complication of SARS-COV-2 infection, while patients with multimorbidity may present some of the particularly vulnerable population groups.

Abstract citation ID: ckae144.812
Long COVID prevalence differences across 27 European countries that participated in the 2021 Survey of Health, Ageing and Retirement in Europe

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The COVID-19 pandemic caused a significant burden in Europe, with over 60% of infected individuals developing Long COVID symptoms. Variations in Long COVID prevalence across countries are linked to individual-level factors, but the influence of population-based country-level characteristics remains unclear. Thus, our objective was to assess how country-level characteristics related to: (i) the way European countries responded to the COVID-19 pandemic, (ii) their population-level health status, (iii) provision and access to healthcare services, (iv) human development, governance, and environmental risk factors, are associated with Long COVID. We used a sample of 4,004 middle-aged and older adults from 27 European countries who, in summer 2021, participated in Corona Survey 2 (from Survey of Health, Ageing and Retirement in Europe) and who reported COVID-19 infection one year prior to the survey. To assess the potential role of country-level characteristics, while controlling for key individual-level factors, we estimated three sequential multilevel random intercept logistic regression models. Approximately 70% of respondents who had COVID-19 also experienced Long COVID symptoms and there were significant cross-country differences in Long COVID rates, ranging from 32% to 89%. About 13% of the total variance in the risk of having Long COVID can be attributed to cross-country differences and the remaining 87% to individual-level factors. The individual-level characteristics also accounted for 6% of the observed cross-country differences in Long COVID rates (compositional effects) while the country-level characteristics further reduced this variance by over 50%. Both individual and country-level factors influence Long COVID occurrence, emphasizing the need for tailored recovery plans, healthcare planning and resource allocation at the national level to address this condition.

Abstract citation ID: ckae144.813
Long Covid autonomic syndrome and his impact on workability: results of observational prospective study and 1-year FU in patients admitted to hospital with COVID19

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Long-COVID19 has been recently associated with long-sick leave and unemployment. We will present recent data obtained by a prospective observational study conducted during the 2nd wave of the pandemic in Italy to assess the time course of Long-COVID19 autonomic syndrome in working age population and its impact on patient's work ability. The patients were consecutively enrolled at the time of their hospital discharge and were followed-up for 1 year. Clinical data and work ability have been collected at 1, 6, and 12 months after hospital discharge in our out-patient clinic. Data on Long-COVID19 autonomic syndrome occurrence in working-age and the effects on work ability will be presented and discussed. Long-COVID19 autonomic syndrome occurred in one in three working-age people and was still evident 6 and 12 months after the acute infection resolution. This was associated with a significant reduction in the work ability. Timely recognition of long-COVID19 autonomic syndrome and its potential impact on work ability represents important steps in the prevention of long-term disabilities among active working adults.

6.X.2. Food Insecurity in Europe: Voices from across Europe

Abstract citation ID: ckae144.814

Organised by: EUPHA-ENV
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Food insecurity (FI), "lack of regular access to enough safe and nutritious food for normal growth and development and an active and healthy life", is a global public health issue. The United Nations (UN) have identified achieving food security as a key Sustainable Development Goal (SDG), where all people should "have access to safe, nutritious, and sufficient food all year round." However, disasters related to the consequences of changing climates, pandemics, wars, displacement of populations, high inflation rates, changes in social protection systems, and food system changes challenge the achievement of this SDG. FI persists even in high-income countries including Europe. This workshop session will foster a knowledge, research and experience exchange on the situation of individuals / different population groups in the context of FI in different European countries. Starting with a contribution from Austria, the term food poverty is introduced and considered from a food system perspective / from an equity perspective. The second contribution illuminates the relationships between FI, shopping behaviours and social support among food bank users in Germany during the COVID-19 pandemic. The final third contribution comes from the Netherlands and explores the needs and perceptions regarding healthy eating among people at risk of FI. In all three studies, standardized measurement tools were applied to measure FI but recruiting methods and data collection methods varied considerably between and within the studies. The session enhances the knowledge on FI in Europe from different perspectives.

Key messages:

- Food insecurity does exist in Europe: there is a need for regular, consistent monitoring across European countries.
- Food insecurity involves more than just access to food; it also considers nutritious and climate-friendly options, addressing the link between climate, health, and equity.

Abstract citation ID: ckae144.815
Food poverty as a barrier for a healthy and climate-friendly nutrition in Austria

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Background: The food system plays a crucial role in promoting healthy and climate-friendly living. One fundamental aspect is accessibility. However, in Austria, there is a lack of systematic and regularly conducted studies on food system accessibility. To address this gap, a comprehensive study on food poverty has been conducted for the first time in Austria.
Methods: We used a mixed methods approach, combining expert workshops, a representative questionnaire survey ($n = 2004$) using the Food Insecurity Experience Scale (FIES), and focus groups ($n = 20$) with affected individuals.
Results: Approximately 12 percent of people living in Austria are affected by moderate and/or severe food poverty. These individuals struggle to afford sufficient quantities and quality of food due to financial constraints or limited access in general. Over four percent experience severe food poverty, leading to skipped meals or even days without food. People affected by food poverty would like to focus more on healthy shopping and quality of food (prioritizing fresh food over cheap high-processed food). The biggest hurdles relate to a lack of financial resources, too little time and a lack of affordable (healthy and climate-friendly) options.
Conclusions: Food poverty is a phenomenon in Austria that has received little attention to date. Public discourse often attributes nutritional problems to information gaps or individual competence, neglecting the impact of structural conditions. Addressing food poverty requires holistic approaches that avoid stigmatization. Recognizing it as a social, health, climate, and agricultural policy concern necessitates robust monitoring and considering the social and environmental aspects of nutrition holistically.

Abstract citation ID: ckae144.816
Food insecurity among food banks users during the COVID-19 pandemic in Germany – what have we learnt and what should we do?

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Background: Before the start of the COVID-19 pandemic in 2019, up to 1.65 million people visited a total of 956 food banks called “Tafel” in Germany. The start of the pandemic and the associated first lockdown led to shortages in commercial food outlets and to considerable restrictions on the range of food banks. The aim of the study “Food INsecurity Among TAfel users” (FINATA) was to investigate the prevalence of food insecurity (FI) and its association with social support and food shopping behaviours among Tafel users during the pandemic.

Methods: A written and/or oral survey was conducted in 2020 and 2021 among a total of 985 Tafel users. In addition to descriptive analyses, regression analyses, stratified for 2020 and 2021, were conducted to investigate associations between FI and the other variables.

Results: Participants of 2020 ($n = 565$) and 2021 ($n = 420$) differed in several socio-demographic characteristics. Whereas the prevalence of moderate FI over the 30 days prior to the survey differed between participants of 2020 (21,6 %) and 2021 (6,6 %), the prevalence of severe FI was almost identical (3,9 % vs. 4,0 %). Variables being significantly ($p < 0{,}05$) associated with moderate/severe FI included being single vs. being married (2020: OR 4,89, 2021: OR 2,69), receiving at least half of food in the household from the Tafel (2020: OR 0,34), low vs. moderate/high social support (2020: OR 2,93), buying food in commercial food outlets at least once/week vs. less often (2021: OR 0,38) and time of travel to the most used commercial food outlet (2021: OR 1,04).

Conclusions: The social safety net during the pandemic failed to enable “all people to have (...) economic access to sufficient (...) food” in Germany. Future studies should investigate the relationship between social support, shopping behaviours and FI at the long-term. Food banks are recommended to introduce measures to improve the social situation of their clients such as cooperating with social cafés and restaurants.

Abstract citation ID: ckae144.817
Needs and perceptions regarding healthy eating among people at risk of food insecurity in the Netherlands

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Background: Healthy eating behaviour is an essential determinant of overall health. This behaviour is generally poor among people at risk of experiencing food insecurity, which may be caused by many factors including perceived higher costs of healthy foods, financial stress, inadequate nutritional knowledge, and inadequate skills required for healthy food preparation. Few studies have examined how these factors influence eating behaviour among people at risk of experiencing food insecurity. We therefore aimed to gain a better understanding of the needs and perceptions regarding healthy eating in this target group.

Methods: We conducted a qualitative exploration with 10 participants at risk of experiencing food insecurity in the Netherlands.

Results and conclusions: The analysis using an inductive approach identified four core factors influencing eating behaviour: Health related topics; Social and cultural influences; Influences by the physical environment; and Financial influences. Overall, participants showed adequate nutrition knowledge. However, eating behaviour was strongly influenced by social factors and physical environmental factors. Perceived barriers for healthy eating behaviour included poor mental health, financial stress, and high food prices. Participants had a generally conscious attitude towards their financial situation, reflected in their strategies to cope with a limited budget. Participants were familiar with several existing resources to reduce food-related financial strain and generally had a positive attitude towards these resources. An exception was the Food Bank, of which the food parcel content was not well appreciated. Proposed interventions to reduce food-related financial strain included facilitating social contacts, increasing healthy food supply in the neighbourhood, and lowering prices of healthy foods. The insights from this study increase understanding of factors influencing eating behaviour of people at risk of food insecurity.

6.Y.1. Defining, measuring, and reducing low-value care in Europe - proposing a new definition and framework

Abstract citation ID: ckae144.818

Organised by: European Observatory on Health Systems and Policies, EU Expert Group on Health Systems Performance Assessment
Chair persons: Dimitra Panteli (Belgium), Kenneth Grech (Malta)
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The EU Expert Group on Health Systems Performance Assessment (HSPA) selected value-based healthcare, with a focus on low-value care, as the work topic for 2023-2024. Against the backdrop of increasing healthcare expenditures and the overall aim to deliver high quality and efficient healthcare, efforts to reduce waste and inefficiencies have long been emerging in health systems worldwide. Value-based healthcare shifts the focus towards improving patient outcomes; the concept of low-value care in particular aims to identify health services that provide little or no health benefits but expose patients to potential harm. The COVID-19 pandemic clearly demonstrated that value-based healthcare is a prerequisite for high-performing health systems and the need to steer resource allocation to those services that maintain or improve health. The reduction in certain elective services observed during the pandemic (e.g. tonsillectomies) indicates that there may be areas for potential dis-investment and reallocation of resources to higher-value care. The pandemic has thereby emphasized the need for identifying and systematizing measurable efforts directed at reducing low-value care. Tackling low-value care can contribute to alleviating health workforce constraints by ensuring that efforts are focused where they are most beneficial, and not on unnecessary services. Engaging and educating the health workforce about low-value care and how to reduce it is a key measure in this direction. What is more, there is increasing awareness about the health sector's considerable environmental footprint. Reducing low-value care would contribute to less greenhouse gas emissions, energy consumption and air pollution from the delivery of health services. Despite intensified efforts to address waste and inefficiencies in healthcare in the last decade, the ability of health systems in Europe to identify and reduce low-value care varies. Through the Expert Group's work, a new comprehensive definition was proposed and a framework to distinguish different types of low-value care was developed as a basis for identifying and tackling low-value care in EU Member States. Indicators to measure low-value care as well as measures to reduce it were collected. This workshop aims to present the findings of the Expert Groups work on low-value care and to discuss them with conference participants to both raise awareness and identify priority elements for future activities. After a brief introduction on the definition, framework, obstacles and solutions, the panelists will share their views and experiences, followed by a facilitated discussion with the audience.

Key messages:

- A comprehensive definition of low-value care and an accompanying framework for categorizing and identifying low-value care is proposed.
- Country experiences with indicators to measure low-value care and strategies to reduce it, as well as related methodological obstacles, offer substantial opportunities for cross-country learning.

Abstract citation ID: ckae144.819

Defining, measuring, and reducing low-value care – proposing a new comprehensive definition and framework

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Despite intensified efforts to address waste and inefficiencies in healthcare in the last decade, the ability of health systems in Europe to identify and reduce low-value care varies. Through the EU Expert Group on Health System Performance Assessment's work, a new comprehensive definition was proposed and a framework to distinguish different types of low-value care was developed as a basis for identifying and tackling low-value care in EU Member States. Indicators to measure low-value care as well as measures to reduce it were collected. This presentation will provide a brief introduction on the definition, framework, obstacles and solutions for reducing the use of low-value care in Europe.

Speakers/Panelists:
Reinhard Busse
Berlin University of Technology, Berlin, Germany
Isabel de La Mata
DG SANTE, European Commission, Luxembourg, Luxembourg
Pacal Meeus
Institut National d'assurance Maladie-Invalidité, Brussels, Belgium
Ingrid Schmidt
National Board of Health and Welfare, Sweden

6.Y.2. AI and health care: what are the capabilities and limitations?

Abstract citation ID: ckae144.820

Organised by: The Commonwealth Fund (USA)
Chair persons: Evan Gumas (USA), Reginald Williams (USA)
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With the rapid advancement of artificial intelligence (AI) technologies and their implementation in health care, there is a critical need to explore the different applications and implications of AI. This workshop seeks to look at different aspects of AI, both potential applications for AI technology in health, public opinions of use of AI in health care, and the reality of implementing AI in different contexts. Understanding health care approaches to AI from different countries is a unique opportunity for shared learning of innovations across various sectors of health care and patient engagement in order to most effectively engage this emerging field. AI, in whichever form it may be incorporated into health care, has the opportunity to impart meaningful, innovative change, but understanding this new technology comes with important questions. This session will dive into research on AI in various areas of health care by 1) looking at different ways AI is being harnessed in health care; 2) discussing lessons which can be learned and adapted from other countries; 3) discussing promising solutions and approaches to implementing AI in health care; 4) discussing the limitations or concerns of integrating AI in health care.

The panel will be composed of 1 moderator and 2 panelists. Panelists are experts in their fields, established researchers and practitioners, and alumni of the Harkness Fellowship from Germany and the United Kingdom. A moderator will briefly frame the discussion for the audience and introduce the speakers and their presentations before leading an interactive, engaging question and answer portion. The coherence of this panel lays in its theme of leveraging AI to enhance healthcare delivery and understanding ways we can work across countries to foster ethical, equitable AI technologies that revolutionize healthcare practices with the ultimate goal of improving patient outcomes and health system efficiencies. Dr. Saira Ghafur from the U.K. will begin by presenting her research on evidence-based reasons for implementing AI in health care and Dr. Benedikt Simon from Germany will close out by discussing his work in AI in Germany and the challenges that have prevented robust integration. Each panelist will speak for roughly 8-10 minutes, with about 5 minutes reserved for moderator and audience questions.

Key messages:

- Sharing cross-country experiences and research enables us to better understand how AI can impact health care.
- In weighing both the benefits and challenges or limitations of implementing AI, we can best understand effective approaches to utilizing AI in health care.

Abstract citation ID: ckae144.821
Evidence for AI in healthcare

Saira Ghafur

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In healthcare, novel AI solutions are being created to address some of the biggest challenges in the prognosis, diagnosis, and treatment of disease, as well as clinician workflows and service improvement. The emergence of generative AI presents a compelling opportunity to revolutionize diagnostics, treatment planning, medical research, and patient engagement. The hypothesized uses of generative AI are broad, ranging from medical education, providing information to patients, generating synthetic patient data for the validation of AI tools, to the analysis of continuous data from wearables to detect early signs of disease. Adoption of digital solutions and AI in healthcare is slower than in other industries. The majority of clinicians don't have direct experience with AI technologies, only a quarter have recommended a digital therapeutic, and less than a fifth have prescribed one. Safety, quality and confidence can be built through appropriate governance, testing, careful implementation and appropriate clinical use. There is a responsibility for AI developers, health systems and providers, as well as regulators, to create clear expectations for evidence and solutions. AI solutions require unique model evidence (evidence for the underlying algorithm) and solution evidence (evidence for the product in which the algorithm is embedded). Models will need validation first on internal and then on external datasets (internal and external validation). This will indicate how accurate and reliable the model is, but will be limited to the dataset that a client has access to. By examining ways to evaluate evidence for AI in healthcare, we can develop a better understanding of how best to use AI to its most appropriate advantages.

Abstract citation ID: ckae144.822
Challenges to implementing AI in health care

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Germany, renowned for its robust healthcare system, finds itself at the early stages of AI integration. This is a reality for many European countries, emphasizing that, despite general technological prowess, AI adoption remains in its absolute infancy. However, in Germany there are areas where AI shows promise, notably in fields like radiology. Beyond such niche applications though, Germany grapples with a significant challenge - the scarcity of robust data essential for meaningful AI utilization, particularly in the realm of public health. While these insights are specific to the German context, understanding the intricate hurdles impeding widespread AI implementation is a meaningful takeaway for countries around the world. In order to effectively leverage new technologies, there is an acute need for advancements in data infrastructure and governance to unlock the full potential of AI in healthcare. Overcoming barriers and charting a path towards a future where AI serves as a transformative force in German healthcare, could one day lead to enhanced system efficiencies and patient experiences, but for now we have to be thoughtful about the realities of implementing AI within current existing health system infrastructure.

7.X.1. Providing BoD estimates on a regional level – necessity in assessing health inequalities

Abstract citation ID: ckae144.823

Organised by: European Burden of Disease Network, EUPHA-CHR, -PHMR
Chair persons: Elena von der Lippe (Germany), Sarah Cuschieri (Malta)
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Burden of disease indicators, such as Disability-adjusted life years (DALY), Years lost due to disability (YLD) and Years lost due to death (YLL) have become standard indicators in public health reporting systems. Due to the combination of morbidity and mortality, the DALY provides valuable information on the burden due to specific diseases. These tools are employed by policymakers to devise intervention programs with the objective of enhancing the collective health of the population. Studies at the subnational level offer a greater added value to the public health information systems. Identifying variations in health outcomes and disease burden across different regions is a key factor when introducing targeted interventions and allocating resources. Health inequalities persist also in countries with good health systems and well-developed welfare state. There are notable contrasts in the political, economic and social environments across Europe. Moreover, the European countries are at different stages of the epidemiological transition, which encompasses a range of factors influencing health and modifiable risk behaviours. These differences are determined by socioeconomic inequalities at national and sub-national level, such as municipalities, counties and others. It is therefore imperative to provide BoD indicators at the most possible detailed regional-level and to link this information with further indicators such as deprivation indexes or Gini coefficients. Obtaining regional-level data for BoD analysis and health inequalities is not straightforward and can pose many challenges. Data availability is usually scarce and may involve significant resources in collecting it. Data quality and data completeness can also pose challenges in the reporting systems, which can result in under-reporting of certain diseases and overlooking health problems in the population. Also, countries with smaller populations are confronted with the challenge of a limited number of cases, which poses difficulties in obtaining regional estimates. The following workshop presents examples from European BoD studies, that have analysed health inequalities at regional level. The first presentation shows a country comparison study of the overall YLL and their association with socioeconomic and geographical inequalities. The second is from an Estonian study, representing a country with a small population that has developed its own methodology for assessing regional health issues. The third presentation from the German BoD study presents results on 96 spatial planning regions, which have been combined with the German index of socioeconomic deprivation. The final presentation brings example from Norway, where the association between YLL and education and income is examined at municipality level.

Key messages:

- By comparing BoD estimates at the regional level, policymakers and public health officials can identify areas with higher disease burdens, indicating potential health inequalities.

- Linking information on BoD indicators with data on regional and socioeconomic inequalities is essential when monitoring developments and tailoring strategies in public health outcomes.

Abstract citation ID: ckae144.824
Regional inequalities in years of life lost within the European Economic Area: Using the Gini coefficient and slope index of inequality to assess spatial disparities

Orsolya Varga

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Background: Health inequalities have been linked to reduced life expectations. This study aimed to investigate regional variations in all-cause years of life lost (YLLs) in European Economic Area (EEA) countries prior to the COVID-19 pandemic.

Methods: Demographic data were extracted from Eurostat for 1390 small regions 32 EEA countries. Age-standardised sex specific YLL rates per 100,000 population in 2019 were estimated for EEA regions (Eurostat NUTS level 3) using methodologies derived from the Global Burden of Disease study. Relative spatial disparities were evaluated using the Gini coefficient (GC) and absolute spatial disparities assessed using the slope index of inequality (SII).

Results: Between EEA countries, relative geographical inequality in age-standardized YLL rates was higher than within them, slightly more so for males (GC = 16.96% [95% CI = 16.26-17.65]) than females (14.22% [13.62-14.82]). Among females, the UK (11.21% [95% CI 10.11-12.30]), Greece, and Croatia had the highest relative spatial inequality, while Ireland (3.37% [2.26-4.48]), Slovakia, and the Netherlands had the lowest. For males, Belgium (10.76% [9.34-12.17]), the UK, and Croatia exhibited the highest relative spatial inequality, while Ireland (1.99% [1.18-2.81]), Lithuania, and Slovakia had the lowest. Germany had the largest absolute geographical inequality in YLLs among females (SII=16.86% [16.28 to 17.44]), followed by Estonia and the UK. Among males, Estonia had the largest absolute spatial inequality (36.60% [-10.88 to 84.07]), followed by Latvia and Hungary. Ireland had the lowest absolute spatial inequality for both females and males.

Conclusions: Relative and absolute disparities in premature mortality rates are evident across regions of the EEA, both within countries and across the entire region. These findings offer insights for national and local stakeholders, aiding them in customising public health interventions to target spatial health disparities.

Abstract citation ID: ckae144.825
Addressing Regional Health Disparities: Estonia's Approach to Burden of Disease Studies

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Background: Estonia, a small country defined by NUTS2 regions, faces challenges in assessing health disparities across its different counties when using global health data such as the Global Burden of Disease (GBD). Recognizing this limitation, Estonia initiated independent burden of disease studies in Estonia since 2013, with the findings being biennially published through the health statistics database of the National Institute for Health Development. The objective of this research is to assess the strengths and limitations inherent in various methods when calculating the years of life lost due to premature mortality (YLLs).

Methods: The approach to assess the burden of disease in Estonia differs somewhat from the Global Burden of Disease (GBD) methodology. One key distinction lies in our utilization of a national life expectancy table and our presentation of results at the LAU1 regional level. These burden of disease studies utilize region-specific life tables supplied by Statistics Estonia, categorized by county and gender, to compute Years of Life Lost (YLLs), offering an opportunity to pinpoint and tackle regional health issues.

Results: Since the calculation of YLL (Years of Life Lost) in these past studies has relied upon Estonia's regionalized life tables, categorized by county and gender, the results exhibit substantial disparities when juxtaposed with the Global Burden of Disease study conducted by the Institute for Health Metrics and Evaluation (IHME).

Conclusions: This research aims to delve deeper into these variations, examining the challenges related to methodology, the availability, and the quality of data, and most importantly, knowledge translation. Our own burden of disease studies empowers us to formulate informed policy recommendations precisely tailored to the distinctive needs of each county, thereby facilitating targeted interventions, and driving improvements in overall public health outcomes.

Abstract citation ID: ckae144.826
Burden of disease and socioeconomic deprivation in Germany – regional patterns and variations

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Within the scope of the BURDEN 2020 project (Burden of disease in Germany at the National and Regional Level) carried out by Robert Koch Institute (RKI) in collaboration with the German Environmental Agency and AOK Scientific Institute, burden of disease estimates for Germany and its regions become available for the first time. The national estimates of YLL, YLD and DALY are provided not only stratified by age and sex, but also by detailed regional level (96 spatial planning regions). The regional estimates provide valuable information and support the evidence-based decisions in health policies aiming at reducing the burden of disease in the country. To facilitate further the interpretation and usability of these estimates, the provided indicators were linked to the regional information on deprivation. For this purpose, the German index of socioeconomic deprivation (GISD) was used. The index was developed at the RKI and the last revised version was published in 2022. It is based on nine indicators which reflect the three subdimensions of deprivation: education, employment, and income. That is why GISD is a very suitable index for evaluating regional health disparities. Connecting both informations on BoD and deprivation, gives deeper insides in the regional differences within the country. Some diseases exhibit east/west differences, while others show north/south patterns or rural/urban distinctions. These differences reflect the variation in the prevention and health care needs for the

different diseases in Germany. The results underline the necessity to study the regional inequalities separately for each disease. Different health conditions are connected to variations in settings and outline different needs in intervention programs and allocation of means.

Abstract citation ID: ckae144.827

All-cause Years of life lost due to death at municipality level in Norway. Association to educational attainment and median income

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Background: Norway, with 5.5 million people spread across 356 municipalities, has pursued an active policy to reduce social and geographical health inequalities. Despite, studies find significant health disparities linked to socioeconomic factors at the individual-level, although evidence at larger geographical-levels has been mixed. We used a key burden of disease (BoD) metric, Years of Life Lost (YLL), to examine spatial health inequities among Norwegian municipalities and their association with socioeconomic factors.
Methods: We analysed data from all residents in Norwegian municipalities with over 1000 inhabitants as of January 1, 2019. Data was sourced from the National Population Register and Statistics Norway. All-cause YLL were calculated based on age-specific aspirational life expectancy obtained from GBD 2019. Deprivation was measured using educational attainment and median income, categorized into quartiles. Geographical maps illustrating municipality-level all-cause age-standardised YLL rates for males and females were generated. Negative binomial regression models assessed associations between socioeconomic factors and YLL rates, adjusting for age, sex, and an index of centralisation.
Results: High-deprivation municipalities exhibited a 9% higher YLL rate in terms of education (Incidence Rate Ratio [IRR] = 1.09, 95% Confidence Interval [CI] = 1.01-1.17) and a 10% higher YLL rate in terms of income (IRR = 1.10, 95% CI = 1.02-1.08) compared to the least deprived, translating to absolute differences of 1391 and 1466 YLL per 100,000 population, respectively. Additionally, we discuss the potential expansion of this study to incorporate cause-specific outcomes and other BoD metrics based on previous county-level analyses.
Conclusions: Our study demonstrates the feasibility of using BoD methods to assess geographical deprivation and premature mortality at the municipality level, providing valuable insights for public health policy targeted at small administrative areas.

7.X.2. Planetary Health: metaphorical visualizations of transdisciplinary working in practice

Abstract citation ID: ckae144.828

Organised by: EUPHA-PHPP, -ENV, -HSR, EUPHAnxt, EHMA, WHO/Europe
Chair persons: Marleen Bekker (EUPHA-PHPP), Marija Jevtic (EUPHA-ENV)
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Across public health and healthcare practices, we signal low awareness and little urgency for Planetary Health among health professionals as well as lacking or lagging implementation of planned policies. Planetary health requires a ‘just do it’ mentality with a transdisciplinary and reflection-in-action approach. There is a need for a bottom up movement, but HOW to get started and HOW to persevere against all odds? This 25 minute pecha kaucha session is aimed at facilitating transdisciplinary learning for planetary health action. We will start with a brief introduction to the concept of Planetary Health, followed by two short presentations on two metaphorical work processes underlying the startup of a flowering community garden and the preparations for a delicious Italian lasagna. The second half of the session is dedicated to a creative exercise with the audience, generating multiple metaphors in small groups using picture cards, paper drawings. We finalize this session by collaboratively building a visualised sea with transdisciplinary waves of metaphorical innovations that, instead of litter and pollution, make our beaches and shores stronger foundations protective of our planetary life.

Key messages:

- Planetary health requires a ‘just do it’ mentality with a transdisciplinary reflection-in-action approach.
- Metaphorical reasoning visualizes social reality and boosts Planetary health mentality, community spirit and transdisciplinary action.

Abstract citation ID: ckae144.829

Planetary health as a paradigm shift towards health and well-being

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Planetary health is a concept that focuses not only on human health but wider - on the health of our planet. Health is not only a privilege of human beings. Planetary health emphasizes the interconnected nature of human health and environmental health. This also makes a shift in the direction from human anthropocentricity to a more fair approach - health of the whole planet. Human well-being is dependent on the health of the planet, including clean air, water, and food sources. Paradigm shift towards planetary health promotes a holistic view of health that encompasses social, economic, and environmental factors. It considers the complex interactions between humans, animals, plants, and ecosystems. Planetary health insists on a preventative approach by addressing root causes such as pollution, climate change, and biodiversity loss. We should be aware of human responsibility linked to terrible symptoms of our Planet like heat waves, fires, droughts, floods... Planetary health approaches underline the importance of sustainable practices that protect the environment, promoting human health, but also actions to achieve that. By adopting sustainable lifestyles, industries, and policies, we can ensure the well-being of current and future generations. Planetary health calls for global collaboration, interconnecting nature, environment and human health challenges. By prioritizing planetary health, we show that we can be less selfish and that we respect nature and the environment. Planetary health insists on a paradigm shift towards a more integrated and sustainable approach using social and nature sciences in a holistic approach. But, we should also use Planetary health concept as a call for peace, which is a condition for all other achievements.

Abstract citation ID: ckae144.830
Community gardening: metaphorical reconstruction of transformative health governance

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Transdisciplinary working has been defined by the inclusion of non-academic stakeholders in the process of knowledge production. While theoretical, phenomenological and experimental dimensions have been described in the literature, Rigolot proposes transdisciplinarity as a 'way of being' that stretches beyond professional life. The promise of transdisciplinarity however does not always meet the expectations in practice. How to get started, maintain and overcome barriers requires guidance. In an action-oriented evaluation research study we explored this dimension in the Dutch All about Health collaborative platform, which since 2014 facilitates a continuous development of bottom up health initiatives, networks, alliances and other forms of collaboration and learning. From our case studies we developed the Transformative Health Governance model. The model shows the ongoing and reciprocal connections between the actions, the context and intermediate results that were verified in a survey among 103 platform participants. Five types of returns are also building blocks that increase the chance of real (yet hardly measurable) increasing health benefits. They reinforce each other in a continuous process of ideation, integrative approach, innovation, implementation, and impact. The context provides for acceleration or deceleration of that process. With the help of a cartoonist we translated our model into an ongoing cycle of community gardening and maintenance. This metaphor makes the intangible of underlying social processes more tangible, providing a bit more grip on the building blocks, timing and time aspects, as well as deeper understanding the role and necessity of conflict and explicit conflict engagement rather than management. Moreover the cartoon elicits recognition, acknowledgement and spirit to continue their rowing against the systems-invoked tide for better health. It serves as a concrete aid to transdisciplinary working towards planetary health.

Abstract citation ID: ckae144.831
Applying a Planetary Health approach in the European urban context: Lessons from Preparing Traditional Lasagna

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Lasagna is a quintessential Italian dish, renowned worldwide. The most traditional version is "alla Bolognese", which requires a complex preparation process involving careful attention to mixing ingredients and layering to achieve the final delicious result. The images depicting the preparation steps of this typical Italian dish will be used to inspire participants to creatively reflect on how to implement a transdisciplinary approach to address a planetary health issue, such as heatwaves, in a European urban context.

The presentation will be structured as follows: 1. Identification of current problems; 2. Stakeholder analysis; 3. Possible solutions; 4. Barriers and limitations.

The first phase will focus on selecting quality ingredients, analogous to analyzing the urban map of the city, the presence of green areas, identifying vulnerable residents, mapping transportation, etc. The second phase will identify all relevant stakeholders to be involved in creating transdisciplinary solutions for the city, paralleling the proper mixing of lasagna ingredients. The third phase will propose various solutions to be applied, taking into account the inputs and viewpoints of the involved stakeholders, showcasing best practices already adopted, and comparing them to different variations of lasagna alla Bolognese. The final phase will present barriers and limitations to implementing such an approach in a European urban context (e.g., costs, historical monuments, lack of stakeholder collaboration), drawing parallels to challenges in preparing lasagna, such as ingredient unavailability, oven issues, or overcooking. Through this original modality, participants will learn about the process of implementing a planetary health approach to one of the major climate change issues affecting the European landscape.

7.Y.1. Health Literacy in a multi-modal world: innovation challenges

Abstract citation ID: ckae144.832

Organised by: HeLiCA, EUPHA-HP, Freiburg University of Education (Germany), IPC of Coimbra (Portugal)
Chair persons: Luís Saboga-Nunes (EUPHA-HP), Sukran Peker (Türkiye)
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Good Governance, Healthy Cities and Health Literacy (HL) (The Shanghai Declaration, WHO 2016) are presented as the three pillars of Health Promotion. In order to pursue these pillars as a global strategy to ensure that citizens can make healthy choices, there is a need to explore innovative ways that are accessible and affordable to all, that will ensure that all have the right to health. In this workshop five presentations will trigger a discussion that is proposed to be developed around the consequences of innovating from the health literacy perspective: Floriane Silvestri from Portugal, will focus on health literacy and health coaching as a node towards health promotion; Juliana Bertani from Basil will address Health literacy & somatic education from a salutogenic self-resource critical health intervention; Alcina Ilharco will focus on mental health and the health literacy of university students; Paula Vital will consider the role of social prescription multi-modal approach and Sukran Peker from Turkey will present a qualitative study of the relationship between health information and behaviors. The discussion that will follow these presentations is aimed at providing new perspectives on the topic of health literacy with participants interaction and networking.

Key messages:

- Innovative ways to bring health promotion into effectiveness needs to be established from health literacy focused initiatives.

- Salutogenesis is a structural paradigm to drive innovative mechanisms to help improve wellbeing and quality of life by health literacy innovative approaches.

Abstract citation ID: ckae144.833
Health coaching: the node of health literacy & health promotion

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Introduction: To achieve sustainable health behaviors and outcomes to move from a precarious health situation to good health, people need to be supported in health literacy in behavior change that ensure interventions' success. As a non-clinical approach, health coaching aims to increase a person's levels of self-efficacy, confidence and resilience, by promoting the sense of coherence. This communication aims to identify the benefits that health coaching as a salutogenic approach can trigger.

Methods: The work is structured in a narrative review of literature and the lived experience of the authors in health coaching.

Results: The published research on health coaching and the systematic professional experience of the authors highlight: (1) the anchoring of health coaching in the salutogenic model and in the person-centered approach focused on individual characteristics and needs in driving healthy behaviors; (2) health coaching as a collaborative relationship with chronically ill people and people at risk of developing illness; (3) the role of health coaching as a sense of coherence (SOC) promoter; (4) health coaching as a new profession in the healthcare ecosystem (e.g. NHS, UK), cooperating with multidisciplinary teams.

Discussion: From A.Antonovsky's model approach to health, the SOC stands out and constitutes one of the basic theories in health coaching interventions, by strengthening the person's capabilities of comprehensibility, manageability, and meaningfulness. As an emerging profession, with ethical and a growing research foundation, it is facilitated by trained professionals in managing and monitoring health behavior change.

Conclusions: Health coaching aims to bring relevance, meaning and strategy to a person's behavioral change. Health coaching demonstrates positive effects on several health parameters by supporting the implementation of health literacy development and empowering people to trigger sustainable changes that lead to healthier lifestyles.

Abstract citation ID: ckae144.834
Health literacy & somatic education: a salutogenic self-resource critical health intervention

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Issue: Non-communicable diseases (NCDs), such as musculoskeletal conditions, cause severe functional limitations. Therapeutic practices in this field have employed a theoretical-practical framework with a pathogenic and mechanistic bias. However, the causes of these NCD's are also related to biopsychosocial factors. Therefore, a critical theoretical-practical approach, such as Somatic Education, becomes relevant as it introduces a subjective experience to an educational praxis, modifying the meaning processes in human movement experience in a complimentary approach to the pathogenic perspective.

Description of the problem: There is a perceptual poverty in movement experience, which dissociates doing from feeling. Somatic practices aim to foster movement awareness (perception) and autonomy (self-regulation), placing the individual as a valuable resource, strengthening the capacity for understanding, reflection and habitus change. This presentation will focus on the following research questions: Can Somatic Education, as a critical intervention of the body, contribute to increased levels of health literacy? Can somatic practices contribute to sustainable health development? Is it possible to create a new meaningful process in human movement experience through this practice incrementing its salutogenic emphasis?

Results/Effects: Somatic practices foster integrative approaches of health, promoting subjective bodily experience (interface between doing, thinking and feeling). Integrative progress can urge the embodiment of health literacy, encouraging more active and awareness of individuals related to their well-being, contributing to sustainable health development. Moreover, subjective bodily experience transforms the process of meaning in movement experience.

Lessons: Somatic practices enhance NCDs prevention and education, increasing health literacy rates through innovative conceptual foundations.

Abstract citation ID: ckae144.835
Promoting mental health in higher education students: a pilot study

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Introduction: The mental health and well-being of higher education students is a relevant topic today, given the high prevalence of mental disorders and their increasing trend. Therefore, it is imperative to develop health education programs that aim to develop strategies to promote psychological well-being and reduce suffering in this population.

Objectives: To develop and implement a mental health promotion program, with interventions based on Yoga/meditation and Auriculotherapy, and evaluate its impact on the mental health of higher education students.

Methodology: Pretest-posttest design, with assessment before (T0), after the intervention (T1) and with a three-month follow-up (T2). Evaluation with the Portuguese version of the Mental Health Inventory (Pais-Ribeiro, 2001), and physiological assessment (heart rate, respiratory rate and blood pressure). 22 students participated in the intervention, randomly divided into two groups: Yoga/meditation group (GY) and Auriculotherapy group (GA), each with 11 students.

Results: The physiological parameters evaluated showed, in all sessions, a decrease in averages, regardless of the technique implemented. In the assessment at T0 and T1, it was found that there was a significant decrease in the Distress ($p = 0.037$) and Anxiety ($p = 0.031$) dimensions. In the evaluation over time (T0, T1 and T2), it was found, regardless of the technique implemented, that the intervention had a positive effect on the mental health of the students.

Discussion: The results point to the importance of developing mental health promotion programs in higher education.

Abstract citation ID: ckae144.836
Health Promotion and the case of social prescription of laughter

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Introduction: The use of laughter to change lifestyle and promote active and successful ageing is an area of interest within the scope of health promotion. The positive effects of laughter practices occur throughout the life cycle. That is why "laughing" has been identified and indicated as a human activity of social prescription promoting healthy lifestyles. This communication aims to (1) identify the benefits for health, health promotion, well-being, and healthy lifestyle of using laughter activities and practices, (2) identify "laughing" as a social prescription activity that promotes a healthy lifestyle.

Methods: This work is structured in a narrative review of the literature and the authors' lived experience as professionals in the well-being area.

Results: Studies show that laughing and using laughter-inducing approaches have immediate effects on the person who experiences them (e.g. increased general well-being, reduced cortisol levels) with benefits for the immune system and cardiovascular health. Daily practices that are structured and systematic interventions that induce laughter were revealed to have lasting and durable effects. Studies also highlighted the effectiveness of laughter and its important role in improving communication in healthcare professional-patient encounters.

Discussion: Several behaviors are associated with well-being, happiness and positive affect, but the one that is accessible to all people and with the most immediate effects is laughter. Daily practices, structured and systematic interventions that induce laughter are part of non-pharmacological approaches that promote health and well-being. The principles underlying laughter practices are aligned with the Sustainable Development Goals, namely goal 3 (Health), goal 4 (Education) and goal 16 (Peace).

Abstract citation ID: ckae144.837
Promoting health information and healthy behaviors: Results from a qualitative study

Sukran Peker

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Background and aim: Healthy living behaviors can prevent many chronic diseases. This study aimed to explore qualitative perceptions and behaviors about healthy lifestyles in a district's residents.

Methods: This qualitative research was conducted through in-depth interviews with 24 participants aged 28 to 63 in Türkiye.

Results: Of the 24 participants, six were men. The themes were daily routines; health information-seeking behavior, beliefs, motivation for healthy living, dietary habits, daily movement, psychological relaxation, unhealthy behaviors, facilitators, and barriers. Individuals' daily routines were shaped by caregiving duties or work. Health information was preferred from professionals, TV, family health history, and the Internet. Male participants lacked the need to seek health information. Also, some participants believed that diseases are unavoidable and incurable. People with growing children or a family member with a serious illness like cancer often report practicing healthy behaviors. Participants have different healthy eating patterns, including organic eating, home cooking, regular meals, more fruits and vegetables, increased water intake, avoiding late-night eating, and steering clear of packaged foods, salt, and sugar. Many participants walked regularly for physical and mental health; they also expressed avoiding negative people and engaging in hobbies and social activities to maintain psychological well-being. Smoking participants had attempted to quit smoking. Some participants said that adding salt to their food before tasting. Factors cited as hindering healthy behaviors included lack of time, financial constraints, and cultural reasons.

Conclusions: Despite awareness of healthy living, many participants struggle to implement it due to lack of motivation, busy work schedules, social and physical environments, and economic factors. Multisectoral collaboration to create environments that support healthy behaviors can improve public health.

7.Y.2. Solidarity and public health teaching and practice in the age of new normal

Abstract citation ID: ckae144.838

Organised by: ASPHER
Chair persons: Nadav Davidovitch (Israel), Robert Otok (ASPHER)
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This workshop will address the concept and topic of solidarity as it pertains to public health (PH). The objectives of the workshop are: • To explore what is understood by solidarity in the context of PH; • To consider the PH scenarios in which solidarity may be an important construct; • To consider how solidarity is understood by PH experts and practitioners, and • To profile investigate how solidarity is represented in educational and training programme in PH.

Solidarity is a social determinant of health. It is proven as a crucial factor in achieving PH objectives such as: compliance with vaccination campaigns; donations of bodily samples to biobanks; or refraining from polluting. It can be defined as a cost taken upon oneself for the sake of a group with which one identifies (Prainsack and Buyx 2017). As PH is about achieving health objectives through public participation, solidarity can be seen as the kernel of PH practice. In an era with emerging PH threats, from pandemics to climate crises, the importance of understanding the many meanings and uses of solidarity is essential to PH practitioners. There is much more in solidarity than meets the eye. Solidarity is largely a mystification of a collective identity, a boundary-making mechanism that draw the line between 'us' and 'them', and most importantly, it is the generator of what is understood as 'public'. Facing increasing challenges in PH, solidarity is a concept to be thoroughly apprehended. Is there one solidarity, or rather multiple solidarities? What are the referent publics of different solidarities and how do they interact?

Can be a global solidarity? Is solidarity a normative or descriptive concept? Is solidarity the outcome or the generator of pro-social behaviour. These are questions that will be discussed in this round table workshop session. Curious to learn about PH views on solidarity, we conducted structured interviews with PH experts to ascertain views on solidarity as a key concept in PH; whether the concept should be incorporated into PH education programme, and if so, how best to do that. Preliminary findings suggest that all interviewees agreed that solidarity is a key concept in PH but when asked to define solidarity, provided diverse answers. They acknowledged that solidarity should be taught in different stages of PH education, but admitted that it rarely appears in current curricula. Many interviewees stated that solidarity may be culturally and politically determined and should be discussed through case studies and guest lectures as well as theory. The added value of this workshop is to raise awareness about the importance of the concept of solidarity and its importance in PH education and training programmes. The workshop will run as a Round table discussion, in which each panellist will make a short presentation on a specific subject, which will then be discussed between panel members and audience.

Key messages:

- Solidarity is considered a key concept for the practice of public health, yet has been constantly contested as too vague and even too political.
- Presenting key challenges facing the teaching of solidarity as competence in public health; its conceptual ambiguities and cultural differences and the different uses of solidarity as a value and tool.

Speakers/Panelists:
Farhang Tahzib
Faculty of Public Health, Haywards heath, UK
Mary Codd
University College Dublin, Dublin, Ireland
Alison Mc Callum
University of Edinburgh, Edinburgh, UK
Hagai Boas
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9.X.1. Protecting the mental health of healthcare workers: evidence, policy and implementation challenges

Abstract citation ID: ckae144.839

Organised by: EUPHA-HCW, WHO Collaborating Center for Health Workforce Policies and Planning, European Observatory on Health Systems and Policies, WHO/Europe
Chair persons: Ellen Kuhlmann (EUPHA-HCW), Tiago Correia (Portugal)
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Background: There is growing evidence that highlights increasing stress levels and declining mental health among the global healthcare workforce, exacerbated by challenges within workplace environments, labour market and policy frameworks. These conditions place additional strain on an already vulnerable healthcare workforce and consequently threaten the stability of health systems as a whole, given the escalating challenges in retaining, recruiting and reactivating healthcare workers. Although the problems are evident, awareness is increasing and international organisations such as the WHO have advanced policy recommendations, comprehensive and context-specific interventions effectively addressing these problems at varying levels are missing.

Objectives: This innovative workshop offers a platform for bridging the gap between research evidence and policy interventions, stimulating policy learning and knowledge exchange across countries. The session provides an overview of existing knowledge and engages representatives of academia as well as national policymaking, and international organisations to critically discuss challenges as well as good practice experiences with a focus on implementation and problem-solving. The following major questions will be explored: What evidence is available regarding the mental health and wellbeing needs of the healthcare workforce? How are different countries responding to these needs and supporting healthcare workers more effectively? What are some best practice cases focusing on improving mental health support for healthcare workers across various groups, considering diverse needs, gender-inclusiveness, and minority groups? Finally, how can evidence-based policymaking be improved, and how can the implementation of these policies be advanced in a more effective manner? Thesession will encourage critical debate and identify major policy recommendations, focusing on governance and implementation strategies. In the second half of the session, the panel will engage the audience in an interactive discussion to explore novel solutions that prioritise the wellbeing of healthcare workers and effectively address the healthcare workforce crisis in a more person-centred and 'humanised' manner. The workshop supports cross-country learning and networking opportunities.

Key messages:

- Mental health and wellbeing of the healthcare workforce is crucial for health system resilience and needs stronger advocacy for coordinated multi-level governance action.
- Establish a health system and governance approach together with comprehensive monitoring and qualitative comparative workforce studies to identify transformational policies in contextual settings.

Abstract citation ID: ckae144.840
Where should health system investments be made to protect the mental health of healthcare workers?

Gemma Williams

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Background: This study explores trends and work-related determinants of mental health and wellbeing among health and care workers in Europe since the COVID-19 pandemic. The aim is to determine where investments can best be made to protect and support mental health and wellbeing among health and care workers to improve retention and recruitment.

Methods: Data are analysed from the National Health Service staff survey in England and the Health Service Executive 'Your Opinion Counts' survey in Ireland to explore trends in mental health and wellbeing and burnout. Evidence is then taken from a series of

European Observatory policy briefs, based on expert-led literature reviews, to explore determinants of poor mental health and wellbeing and to identify potential areas for investment.

Results: Rates of burnout and poor mental health and wellbeing have increased in England and Ireland since the start of the pandemic among all professional groups. Workplace-based factors are important determinants of poor mental health and wellbeing, and can be grouped into: macro-level structural factors such as staff shortages, poor working conditions and low pay; meso-level organisational factors including poor leadership, and insufficient education, training and support; micro-level individual factors such as insufficient self-care or not seeking support. However, determinants at the micro-level, especially seeking support from others, are largely shaped by structural or organisational factors.

Conclusions: Increased financing to address structural and organisational determinants of mental health and wellbeing contributes to improved patient care, better staff experience, lower rates of absenteeism, and enhanced recruitment and retention. It is therefore one of the best health system investments that can be made.

Abstract citation ID: ckae144.841

Mental health support for healthcare workers: what is it about governance and policy implementation

Michelle Falkenbach

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Background: We adopt a health system and governance perspective to address the mental health needs of healthcare workers, considering the nature of interventions and the levels and actors involved in governance. The aim is to move the debate forward by identifying governance gaps hampering the implementation of health workforce policies and exploring strategies to effectively increase mental health support.

Methods: A qualitative comparative methodology is applied based on a case study design utilising a multi-level intersectoral governance matrix. The assessment matrix comprises four key categories: health policy and data, social policy and psycho-social conditions, organisation of work, and job and professional conditions. We conducted a rapid assessment of healthcare workforce developments in the European context, drawing on secondary sources and country experts. The country sample comprises Germany, Portugal, Romania, Switzerland and the United Kingdom.

Results: Awareness of mental health threats among healthcare workers increased, but policy discourse is driven by service delivery and labour market demands. The attention to healthcare workers' needs is stronger on the international level especially supported by WHO action, and weakest at national/regional levels. Although organisations and professions demonstrate varying degrees of activity, their efforts are scattered and lack sustainability. Similar challenges were identified across healthcare systems, including limited action, disconnected actors, missing coordination, and a lack of attention to governance gaps and system weaknesses.

Conclusions: There are similar problems across countries. Mental health policy is driven by labour market needs and ignores research evidence and the individual needs. Successful mental health policy implementation needs multi-level governance and coherent coordination mechanisms, and generally greater attention to the 'human side' of the healthcare workforce.

Speakers/Panelists: Sara Alidina
Central Administration of the Health System, Lisbon, Portugal
Tomas Zapata
WHO/Europe, Copenhagen, Denmark

9.X.2. Activating the ASPHER-WHO Public Health Core Curriculum: Interprofessional Skills

Abstract citation ID: ckae144.842

Organised by: ASPHER, Faculty of Public Health (UK)
Chair persons: Alison Mc Callum (UK), Judit Simon (Austria)
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The updated ASPHER-WHO Public Health Core Curriculum builds on ASPHER's previous work on Competencies for Public Health Professionals (2006-2020), reflects the changing needs of our population and planet and public health professionals.

The key objectives of this workshop are to: - Share the updated ASPHER core curriculum for public health; - Illustrate examples of public health challenges that young professionals have championed for inclusion; - Share the Faculty of Public Health (UK)'s work on Fair training as a case study on operationalising public health leadership on equality, diversity and inclusion and demonstrating the core competencies in action.

A curricular content survey of member schools and programmes yielded responses from 60 schools, with > 500 submissions of detailed. subject curricula. These have been compiled into 36 Subject Areas in four Domains, namely: (1) Core Subject Areas in Public Health: (2) Subject-specific Areas in Public Health;(3) Core Cross-curricular Subject Areas; and (4) Core Interdisciplinary Professional Skills in PH. The development process was guided and grounded by the expertise and passion of young public health professionals. They are helping us make the core curriculum fit for purpose for the near future and provide them with the skills required to be a competent member of a supportive public health team in an ever changing world. This Workshop will profile selected Subject Areas from each Domain using real life challenges facing WHO European Region to show how the core curriculum integrates research, theory and practice to help build those essential interdisciplinary skills. The examples will focus on Economics in Public Health (Domain 1); Public Health and Criminal Justice; (Domain 2); Health Literacy and Infodemiology, Mental Health and Wellbeing (Domain 3); and Integrative Learning in Action; Communication Skills; Advocacy, Negotiation; Collaborations and Partnerships; and Leadership, Management and Implementation Science (Domain 4). Discussions for each of the Subject Areas will be led by an expert in the area. We will also illustrate an example of these competencies in action, how they are helping shine a light on the challenges we face in creating that supportive team and environment and how the potential for collaboration helps us to capitalise on the expertise available in some schools and programmes for the benefit of all.

Key messages:

- Learning interdisciplinary skills are essential for effective public health analysis, advocacy and action.
- Collaboration across countries, schools, professions and generations can create transformational change.

Speakers/Panelists:
Mary Codd
University College Dublin, Dublin, Ireland
Karl F Conyard
University College Dublin, Dublin, Ireland
Jenny Houston
University of Edinburgh, Edinburgh, UK
Samia Latif
Faculty of Public Health, London, UK
Olalekan Popoola
ASPHER, UCD, Dublin, Ireland

9.Y.1. Breaking down silos: Maximizing the impact of different EU funding schemes in health

Abstract citation ID: ckae144.843

Organised by: EUPHAnxt, EUPHA-PHMR, Sciensano (Belgium)
Chair persons: Nienke Schutte (Belgium)
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The European Commission (EC) has established various funding schemes to support large health initiatives, such as EU4Health, Horizon Europe, and Digital Europe. These initiatives aim to support research and innovation in order to tackle different health challenges faced by EU member states, improve the health and well-being in European citizens and invest in resilient health systems Funding can come in different forms such as grants, subsidies, loans, prizes, and procurements and is managed by different Directorates General of the European Commission. The EC offers a wealth of financial resources, enabling health scientists to conduct cutting-edge research. However, to make the full potential of the EC funding programmes it is essential to achieve interactions and synergies. Thematic interactions consider the underlying policies of specific actions, striving to connect projects focused on related topics rather than letting them work in isolation, and transferring results from one to another. Implementation interactions involve the sequential or cumulative funding of one or multiple projects. Moreover, the abundance of financial sources poses the possibility for duplication of efforts and redundancy among the various programmes. In addition, complexities in rules and guidelines pose challenges for researchers to fund their long term research projects through cumulative funding. To avoid redundancy and tackle health issues efficiently, it is essential to ensure collaboration and coordination across funding schemes to effectively address both overarching and specific health topics. The aim of this roundtable is to share with the audience the different funding mechanisms provided by the European Commission, explore barriers and challenges to fostering collaborative innovation through the funding programs, and demonstrate best practices for optimizing synergies across different programs. This round table gathers panelists from a variety of backgrounds covering the European Commission, national health institutes, NGOs and SMEs.

Key messages:

- The European Commission provides diverse and rich funding schemes supporting health research and innovation to tackle European health challenges.
- Complexities in rules and guidelines pose challenges and combined efforts of both the European Commission and research communities can foster collaborative innovation across the funding schemes.

Speakers/Panelists:
Jinane Ghattas
Sciensano, Brussels, Belgium
Agnès Mathieu-Mendes
HaDEA, EC, Brussels, Belgium
Anabela Isidro
Agência de Investigação Clínica e Inovação Biomédica, Lisbon, Portugal

9.Y.2. Leveraging GenAI and Deep Learning for the Analysis of Public Health Data: A Global Perspective

Abstract citation ID: ckae144.844

Organised by: Conduent
Chair persons: Dianna Lydiard (USA), Tarun Khatri (Canada)
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The evolution from Artificial Intelligence (AI) to Generative Artificial Intelligence (Gen AI) represents a significant advancement in technological capabilities and applications. Advancements in computing power, algorithmic complexity, and data availability have enabled Gen AI to exhibit broader cognitive abilities such as reasoning, problem-solving, and learning across diverse domains. Private sector investment and innovation is advancing capability in this space at a rapid pace, trending toward a complete paradigm shift towards machines capable of autonomously adapting and learning in dynamic environments, promising profound impacts across industries from education and finance to healthcare and beyond. Yet harnessing the power of GenAI remains out of reach for most public health entities. Questions like “How to start” and “What to do”, let alone concerns regarding cost, security, and ethics, often thwart an agency from endeavoring to even begin their journey to the program improvement they visualize through the lens and promise of AI. Conduent’s longstanding presence and pioneering work in AI across various sectors, has led to a simple, underlying philosophy: we leverage Gen AI technologies to assist and enable humans to improve business processes. Instead of developing Gen AI technologies ourselves, we focus our efforts on making advanced technologies accessible to our clients and enabling them to achieve their outcomes.

This session focuses on accessibility and enablement for public health agencies looking to jump start their journey to AI and evolve their public health programs with the use of Gen AI, covering topics such as: • The evolution of GenAI in the private sector; • Visualizing objectives in public health outcomes and improved business processes; • What to do about data; • Using human intelligence to drive machine learning; • Managing security, ethics, and equity; • Roadmap your Journey to Gen AI.

For Conduent, Gen AI is not intended to replace humans but to harness its potential to support and empower humans in creating innovative, additive opportunities that enhance business process outcomes. In the public health space, its impact is immense and far reaching. Let's shift from "How do I start" to tackling the questions that improve programs and their outcomes. So how will you optimize your program with Gen AI? Let's get started.

Key messages:

- Private sector Gen AI capability is expanding at a rapid pace yet many public health agencies are struggling just to start. Conduent offers an informed perspective to jump start your Gen AI journey.
- Accessibility and enablement for public health agencies looking to jump start their journey to AI and evolve their public health programs with the use of GenAI.

Speakers/Panelists:

Mark Marostica
Conduent Public Health Solutions, Florham Park, USA
Dianna Lydiard
Conduent, Florham Park, USA
Tarun Khatri
Conduent, Burlington, Canada

10.X.2. Strengthening primary health care through best practice transfer: the CIRCE-JA approach

Abstract citation ID: ckae144.845

Organised by: CIRCE-JA Consortium, EC
Chair persons: Loukianos Gatzoulis (Belgium), Elena Petelos (EUPHA-HTA, EUPHA-GH)
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Primary health care (PHC) is a fundamental component of resilient, strong, and sustainable health systems. The main aim of PHC is to address people's health in a high-quality comprehensive system approach, ensuring person-centred and integrated care across their lifespan, which includes their physical, mental and social well-being. Following the COVID-19 pandemic, health systems' strengthening has become a global public health and European public health priority, and an overarching objective of the EU4Health programme. In Feb 2023, the three-year Joint Action on the transfer of best praCtices In pRimary CarE (CIRCE-JA) was launched. Its overall objective is to effectively transfer and implement six identified PHC best practices (BPs) across EU Member States (MS), with scientifically robust evidence-based approach, to ensure sound transferability methodology. Critically, it aims to increase MS capacity to deploy innovative care models in PHC and to effectively support health system transformation at this level of care. CIRCE-JA is a collaborative effort with 14 MS participating, bringing together 48 entities, to initially transfer the identified BPs into 42 new implementation sites, whilst at the same time generate all the necessary tools to facilitate uptake and evidence-informed decision-making across all MS. This implementation is based on the alignment of key BP characteristics to meet the local healthcare needs and priorities and match them with national and regional policies. It aims to facilitate integration of public health priorities to PHC practice, and to support the reorganization of services, for strong health promotion focus, synergies with community care, and better coordination of care. During this session key aspects will be discussed using the Pecha Kucha style, to inform the audience about current progress and CIRCE-JA using short stories, also on EU policies and priorities, and the EU4Health support for PHC and public health integration. What is urgently needed at EU-level when it comes to health systems' strengthening in the post-COVID-19 period and why is PHC critical in this respect? How can the CIRCE-JA developments inform the ongoing transfer and future efforts for the selected BPs in terms of a robust scientifically evidence-based approach? How does the policy dialogue CIRCE-JA is establishing locally, nationally, regionally, supports not only the JA's sustainability, but all future implementation efforts for PHC?

Finally, a brief interaction with the audience will take a place to allow attendees to discuss on key priorities and challenges in their own settings and practice, including the barriers and difficulties that they have initially identifies in the implementation efforts. The output of this interaction will also inform the initial steps towards the establishment of the final deliverable of CIRCE-JA, i.e., the European Primary Healthcare Observatory, to sit on the European Commission's Health Policy Platform.

Key messages:

- Health systems' strengthening necessitates strong PHC. CIRCE-JA delivers state-of-the-art tools and brokers policy dialogue to achieve it across Europe.
- Several barriers and issues that facilitate the transferring process have been identified in the first implementation of this European initiative.

Speakers/Panelists:

Christos Lionis
CSFM & HSR-PH Lab, Faculty of Medicine, University of Crete, Heraklion, Greece
Ana M Carriazo
Regional Ministry of Health and Families of Andalusia, Seville, Spain
Alice Borghini
National Agency for Regional Health Services AGENAS, Rome, Italy
Radivoje Pribakovic
NIJZ, Ljubljana, Slovenia

10.Y.1. Energy poverty and public health: insights from the European WELLBASED project

Abstract citation ID: ckae144.846

Organised by: WELLBASED Consortium
Chair persons: Amy van Grieken (Netherlands)
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Rising rates of energy poverty in Europe, affecting 11% of households, are a serious public health concern. Being unable to afford basic energy needs can impact both mental and physical health and well-being. The WELLBASED project is a European research project (grant no 945097) in which 19 partners across 10 countries develop, implement and evaluate comprehensive urban programs to tackle energy poverty. We aim to support public health practice by understanding determinants and impacts of energy poverty and develop solutions for policy and practice. This workshop's main aim is to engage the public health community in the relevance of energy poverty for public health. The workshop participants are introduced to the WELLBASED project and methods used. Two pilot sites will share their story about the implementation of the WELLBASED interventions. Next, findings from the evaluation of the programs on health, well-being and energy poverty across all pilot sites are presented. Implications for policy and practice are shared with the audience. After the workshop, participants are informed about the implications of energy poverty for health, understanding its relevance for public health action.

Key messages:

- The WELLBASED project provides a framework to fight energy poverty and promote health and well-being based on studies in six European cities.
- Energy poverty is a public health challenge that requires a health-in-all-policies approach with local evidence-based urban programs.

Abstract citation ID: ckae144.847
Valencia and the Right to Energy approach

Belen Costa Ruiz

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Background: Valencian (Spain) vulnerable households are suffering both winter and summer energy poverty. An increasing number of families have difficulties paying energy bills and are being forced to cut consumption, consequently reducing their well-being and quality of life. This study presents the development and implementation of the Right to Energy urban program in the Valencia pilot city, as part of the larger European WELLBASED project.

Methods: The interventions were designed based on the social ecological model, aiming at impacting the different layers influencing individuals' health, following co-creation sessions with 6-9 stakeholders from policy, citizens and practice. Implementation efforts were monitored using administration of participation. The experience of the Energy Office was also valuable for the design and implementation phase.

Results: The program consisted of bill optimization and advice, socio-energetic audit at home and the installation of an efficiency kit. On top of that, the Valencia pilot has created the Citizen School for the Right to Energy [CSRE] to empower households and improve their health through education activities. In total, 130 vulnerable households with different profiles were supported. The CSRE has carried out 28 workshops to train people in energy and health topics: energy rights, healthy diet, mental health, sleep quality or preparation for heat waves. These were an opportunity to share experiences among participants, fighting stigmatization and isolation by creating a community. The CSRE has also organized capacity-building sessions for professionals who can identify energy poverty such as healthcare and social workers, teachers or NGO's.

Conclusions: Energy poverty, both winter and summer, is a major public health issue that impacts people's health. The CSRE is an innovative way to tackle it and promote the Right to Energy across society by supporting and training people to improve their wellbeing.

Abstract citation ID: ckae144.848
Transitions in heating systems and impact on perceived wellbeing: a qualitative study

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Background: as part of the larger European WELLBASED project an urban program focusing on transitions in heating to tackle energy poverty, is implemented in 4 disadvantaged, predominantly Roma neighborhoods of Edirne, Türkiye. These neighborhoods have high levels of vulnerability, aid dependency, and energy poverty. This study investigated the impact on perceived wellbeing of implementing the heating system transition.

Methods: A qualitative methodology was applied; data was collected through semi-structured in-depth interviews among participants in the intervention group of the larger WELLBASED evaluation study. Diversity was ensured regarding gender, age, education level, and working status. Participants were 13 individuals from 13 households in which energy-efficient heating systems were installed. Interviews were audio-recorded, transcript verbatim and coded; thematic analysis was conducted.

Results: 3 main themes and 7 sub-themes (st) emerged in the preliminary analysis with regard to impact on well-being: perceived changes in living conditions (st: physical changes, financial implications, domestic burden), perceived effects on health (st. mental health, physical health), and expectations versus reality (st. insulation, efficiency). Experiences differed as per housing condition, type of energy used, usage proficiency, and income level.

Conclusions: Energy efficient heating system transition to tackle energy poverty at homes may not be sufficient to realize impact on perceived wellbeing. Housing conditions (ie. insulation), supported energy sources and management of expectations need to be considered as part of the program.

Abstract citation ID: ckae144.849
Impact of the WELLBASED urban programs on health, well-being, and energy poverty

Amy van Grieken

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Background: The WELLBASED project developed and implemented urban programs across six pilot sites to tackle energy poverty. This study aimed to evaluate these programs' effectiveness on a broad range of health, well-being, and energy poverty indicators.
Methods: a controlled study was performed in six European pilot sites. Participants in the intervention condition receive the 12-month WELLBASED urban program. Participants were recruited via different methods and provided informed consent to participate in the 18-month study. Self-report questionnaires were completed at baseline, 6-, 12 and 18 months in both research conditions. In the intervention group, monthly health monitoring of e.g. heart rate and blood pressure, and continuous monitoring of indoor CO2, temperature and humidity were performed. Descriptive statistics and regression analyses are performed to assess the impact of the urban programs on health, well-being and energy poverty-indicators
Results: In the baseline sample ($n = 1350$; $n = 661$ intervention group, $n = 689$ control group) the mean age was 49 years (SD 16), 15.6% was >65 years, 65% were women, and 42% was married. At baseline people reported not feeling comfortable warm in winter (58%) or cool in summer (70%), 43% reported damp or leak. Preliminary findings at 6-month follow-up indicate changes in HR-QoL, subjective well-being and depression/anxiety differ strongly per pilot site location ($p < 0.01$). In summer 2024 all data will be available for analysis.
Conclusions: the comprehensive urban programs developed in the WELLBASED project may support public health to tackle energy and improve health and well-being of vulnerable citizens.

10.Y.2. Unlocking innovation: trustworthy co-creation for tackling complex public health challenges

Abstract citation ID: ckae144.850

Organised by: Health CASCADE
Chair persons: Vinayak Anand-Kumar (Germany), Sebastien Chastin (UK)
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Background: Public health interventions often have limited effects, with few achieving large-scale implementation. Moreover, these interventions frequently fail to replicate their effects in real-world settings, possibly due to an overemphasis on generating universal knowledge through theory building and testing in controlled conditions. An alternative approach involves developing interventions within specific contexts, fostering collaborative knowledge generation, and establishing equitable partnerships. Co-creation offers a transformative strategy for addressing complex public health issues by generating real-world solutions. However, utilizing co-creation in public health presents challenges, including a lack of guidance on implementation and evaluation in public health settings. This underscores the need to integrate real-world co-creation with rigorous research to establish a reliable methodology grounded in both scientific evidence and participatory principles.
Workshop: This Pecha Kucha-style workshop will explore the essence of an evidence-based co-creation methodology developed through rigorous research by the European-funded H2020 Marie Sklodowska-Curie Innovative Training Network, Health CASCADE, and its partners. Emphasizing the significance of fostering innovative solutions to public health challenges, the workshop will provide key considerations for designing co-creation projects. It will also examine the role of enabling technologies in optimizing hybrid intelligence for effective co-creation, highlighting their contribution to collaboration enhancement. Perspectives from co-creators will be presented to offer unique insights into their experience of the co-creation process. Additionally, the workshop will elucidate the adaptation of co-creation processes within the Danish context, exploring collaborative efforts across sectors and shedding light on cross-sectoral cooperation intricacies. A moderated panel discussion will conclude the workshop, facilitating deeper engagement with the presented topics. Delegates will gain insight into applying co-creation in health promotion and behaviour change research, navigating prevalent challenges through Health CASCADE's systematic approach, and discovering strategies for fostering effective and inclusive co-creation. They will also acquire strategies and resources to overcome potential obstacles, fostering more effective and inclusive approaches to complex public health challenges.
Key messages:
- Co-creation presents a powerful approach to addressing complex public health challenges by fostering collaboration, creativity, and inclusivity across diverse stakeholders and communities.
- Effective and trustworthy implementation of co-creation requires an understanding of its principles and methods, enabling technologies, and strong partnerships across sectors and institutions.

Abstract citation ID: ckae144.851
Co-creation in public health: innovations and considerations

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Danielle will delve into the essence of co-creation and its application in navigating the complexities of public health challenges. Delegates will gain insights into how co-creation fosters innovative solutions and discover key considerations essential when designing co-creation projects. Join us to explore the transformative potential of co-creation in addressing the pressing issues of public health.

Abstract citation ID: ckae144.852
Harnessing technology for co-creation: maximizing the collaborative potential

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Quentin will introduce the role of enabling technologies in maximizing hybrid intelligence for effective co-creation. This presentation sheds light on how technological advancements, particularly artificial intelligence, shape the co-creation landscape, emphasizing their pivotal contribution to enhancing collaboration. Through Quentin's insights, delegates will understand how technology can optimize the co-creation process, facilitating communication, data integration, and collective problem-solving. Explore the transformative power of technology in driving innovative co-creation initiatives and unlocking new possibilities for collaboration in addressing complex challenges.

Abstract citation ID: ckae144.853
Navigating co-creation dynamics: lessons from Denmark

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Knud will delve into the adaptation of co-creation processes within the Danish context. Drawing from extensive experience Knud will explore collaborative initiatives with both the private/civil sector and municipalities, offering insights into the intricacies of cross-sectoral cooperation. Delegates will gain valuable perspectives on navigating diverse stakeholders and fostering effective partnerships in co-creation endeavours. Don't miss this opportunity to learn from Denmark's innovative approach to collaborative problem-solving and community engagement.

Abstract citation ID: ckae144.854
Voices from the co-creators: perspectives on collaborative innovation

Lauren McCaffrey
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Lauren will offer firsthand accounts from co-creators in Scotland involved in the development of an intervention targeting sedentary behaviour in adults. This presentation provides a unique insight into the co-creation process, highlighting the collaborative journey, challenges encountered, and successes achieved. Don't miss this opportunity to explore real-world experiences and lessons learned from those immersed in the co-creation of interventions.

5. Poster Walks

1.R. Poster walk: Public health policy and politics

Abstract citation ID: ckae144.855
Social Cohesion in Different Periods of the Pandemic: What Works in Reducing COVID-19 Mortality

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Background: Inconsistent results were reported regarding the effects of social cohesion dimensions on COVID-19 mortality rate (MR). Most studies have indicated that trust in civil services, but not participating in social activities, reduces COVID-19 MR, possibly because of the highly contagious nature of this disease. In this study, we investigated how the effects of various dimensions of social cohesion on COVID-19 MR vary across different phases of the pandemic.

Methods: This longitudinal study was conducted using data from 86 countries that participated in the 2017-2020 World Values Survey. The measures of social cohesion were identified by aggregating survey responses to the country level. COVID-19 MR was calculated-using data from the European Centre for Disease Prevention and Control-separately for three distinct periods during the pandemic (January 2021-June 2022). A factor analysis was conducted to identify the dimensions of social cohesion, and negative binomial regression models were constructed to analyze data for each period.

Results: The factor analysis revealed three dimensions of social cohesion: social participation and inclusion, health service equality, and trust in civil services and democracy. Our findings suggest that each dimension of social cohesion uniquely affected COVID-19 outcomes in different periods of the pandemic. Trust in civil services and a positive attitude toward democracy are strongly associated with a low COVID-19 MR. However, this association was observed only in the early and middle stages of the pandemic. By contrast, our study demonstrated that in the late stage of the pandemic, increased social participation and inclusion helped combat COVID-19.

Conclusions: This study underscores the importance of collective cohesion and solidarity in mobilizing public responses against pandemic situations. This study emphasizes that preventive or regulatory interventions should be tailored to different phases of a pandemic.

Key messages:

- COVID-19 mortality rate was negatively associated with trust in civil services during the early two periods and with social participation and social inclusion during the late period of the pandemic.
- This study emphasizes that preventive or regulatory interventions should be tailored to different phases of a pandemic.

Abstract citation ID: ckae144.856
15 years of the Colorrectal Cancer Screening Programme. Decreasing inequalities

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Background: The Colorectal Cancer (CRC) Screening Programme approved in 2008 by the Regional Parliament and carried out in 2009 a pilot study inviting to residents 50-69 years old (586,700), through a biennial Faecal Immunochemical Test (FIT), colonoscopy in FIT positive. The Programme Coordinating Centre sends FIT by post and involves Primary Care and Endoscopy departments in process and results control. In 2013, 100% coverage was reached, and in 2023 more than 80% were invited more than 6 times. However, inequalities in participation were detected: by age, gender, deprivation and vulnerability. Since 2014, different strategies have been carried out in order to decrease with the commitment of authorities, researchers and associations.

Objectives: To describe strategies and results to decrease inequalities in participation

Results: From the pilot participation rate increased ($p < 0.001$) 58.1% to 72.0% in 2023. Inequalities by gender (69.4 men vs

74.4% women) and deprivation index were detected (55.7/1000 lower vs high 41.0/1000). The non-adherence to colonoscopy was 5% along the period. Training, and communication campaigns developed. 2016-2017 special recruitment for imprisoned and mental health patients increasing participation rate (9.3 to 97.1%). In 2021 and ongoing: thanks to Resilience Funds (European Union), strategies were implemented: SMS specific by sex, research health literacy, studying CRC behavior by sex in FIT sensitivity 85.4% (CI95% 84.2-86.7) in men and 80.9% (CI95% (79. -82.6) in women $p < 0.001$

Conclusions: The governance and involvement of professionals, researchers and patient associations crucial to decrease inequalities. The Basque Programme achieved one of the highest participation rate. Investment in reducing barriers will probably impact on the reduction of incidence and mortality.

Key messages:

- A population based CRC Screening Programme reduces incidence and mortality on participants.
- Intervention to increase participation reduces inequities and is crucial on Public Health policies.

Abstract citation ID: ckae144.857
About the need for a Swiss digital health 'Sistine Chapel' – lessons from 25 years of health policy

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Background: The Swiss government's 'DigiSanté' program 2025-2034 aims to address Switzerland's delay in digitising its healthcare system. Public and professionals' trust is central for the implementation of digital health initiatives and partially based on past experiences with the digital health system. To inform DigiSanté, it is crucial to analyse the evolution of the socio-political discourse surrounding health data sharing in Switzerland in the past 25 years to identify the main obstacles encountered and lessons learned during this period.

Methods: We designed a multi-method study comprising a policy analysis of 65 Swiss policies on health data sharing from 1998 to 2023; scoping review of 250 editorials; sentiment analysis of 400 news articles from six major Swiss newspapers; and thematic analysis of transcripts from 11 online interviews with key stakeholders.

Results: We identified 32 key policy milestones in Swiss health data sharing, with the COVID-19 pandemic emerging as a trigger for present policymakers' awareness of health data's potential and the need for healthcare system digitization. The troubled implementation of the Electronic Patient Dossier (EPD) and its negative narrative are identified as more central in eroding long-term public trust than scandals. Primary obstacles to implementation of the EPD include misaligned stakeholders' interests, slow policy processes, lack of professional support, low public awareness, and technical interoperability issues. Future strategies involve increasing actors' involvement to establish a common vision and strategy and improving public communication.

Conclusions: The present socio-political discourse on health data sharing in Switzerland is shaped by past negative experiences with the EPD, compounded by additional scandals. To cultivate public trust, stakeholders should collaborate to align interests and ensure all parties work cooperatively toward common goals.

Key messages:

- National and international scandals marginally affect public trust compared to the impact of the negative narrative surrounding the slow EPD implementation.
- Misalignment of stakeholder interests is the main barrier to implementing health data sharing initiatives, causing delays and trust erosion.

Abstract citation ID: ckae144.858
Changing the environment: Removing HFSS items in prominent areas of stores in Nottinghamshire

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This study examines the change in exposure to high-fat, salt, or sugar products (HFSS) after the implementation of a policy restricting the placement of HFSS items in prime locations in England that came into legislation in October 2022. 132 observations were conducted in 2022 and 2023, using a food environment survey. Supermarkets (SM), chain convenience stores (CSS), and independent convenience stores (ICS) were observed in the highest and lowest socioeconomic districts (SED) in Nottinghamshire. Descriptive statistics were used to analyse changes in exposures in prime locations by product category, the policy's inclusion criteria, the Food Standard Agency's Nutrient Profile Score (NPS), and the Nova classification. Exposure defined as is the presence of a product at a prime location in stores. A decrease in exposure to restricted products in both SED in SM and CCS was observed. No notable changes were observed in the ICS due to their exemption from the policy. In all SM, the observed exposure to products restricted by the policy was reduced from 39% to 14%. The study found that the policy was successful in reducing exposure to high-sugar products such as biscuits and chocolate. NPS and NOVA showed that exposure rates were notably higher in less healthy and ultra-processed food (UPF) categories compared to the exposure to products restricted due to the policy's exemption criteria. Exposure to alcohol products increased after the policy's implementation, with a 20-percentage point increase in alcohol exposure in all SM checkout areas. The study suggests that the policy may have narrowed the differences in environments between the SEDs, highlighted by the findings in the ICS, whereby exposure to less healthy products was higher in the lower SED. The policy also created an opportunity for the alcohol industry to increase its exposure. Shortfalls in the policy's design were identified through the use of the NPS and Nova classification system.

Key messages:

- Despite the equitable outcomes in socioeconomic districts, loopholes in policy design allow the alcohol industry to exploit prime locations and undermine health objectives.
- Policy success is evident in HFSS reduction; however, continued exposure to HFSS items exempt from the policy, and UPF products highlight policy design flaws that undermine health objectives.

Abstract citation ID: ckae144.859
Tobacco Industry CSR activities in Poland between 2020-2023

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Background: The tobacco industry has undergone a significant transformation in its approach towards Corporate Social Responsibility (CSR) activities. Once primarily associated with controversy and criticism due to the health risks associated with tobacco consumption, many tobacco companies have begun to embrace CSR initiatives as a means to mitigate these concerns and demonstrate their commitment to broader societal well-being.

Methods: Methods were based on the Global Tobacco Industry Interference Index. Between 1 January 2020 and 31 March 2023 scoping review of legal basis, Polish media websites, Polish government and local government websites, also social media of tobacco industry companies has been done by four reviewers searching separately.

Results: Between 2020 and 2023 several tobacco companies supported public schools (organized workshops, offered internships, and demonstrated the production processes). In 2022, the National Revenue Administration signed an agreement with Philip Morris Polska, among other companies, under the Cooperation Program. The objective of the Program is to initiate collaborative measures that promote compliance with tax regulations. At the end of 2021, the National Revenue Administration took patronage over the Business Center Club social campaign entitled 'Coming together to fight the illicit trade in tobacco products'. Moreover, in March 2023 the General Police Headquarters started cooperation with BAT and JTI in the field of combating illegal production and trade in tobacco products, as well as disclosing and eliminating tobacco products from illegal sources from economic circulation.

Conclusions: In Poland, which currently has no specific regulation constraining tobacco industry lobbying, implementation of the provisions of WHO FCTC Article 5.3 is needed to limit interactions between the government and the tobacco industry. Government and public schools should not accept any support from the tobacco industry.

Key messages:

- The government should have regulatory measures to manage its interactions with the tobacco industry, emphasizing the importance of refraining from accepting industry assistance.
- Implementation of WHO FCTC Article 5.3 of is needed to limit interactions between the government and the tobacco industry.

Abstract citation ID: ckae144.860
Review of national rare disease strategies: innovation driving change

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Background: A rare disease affects fewer than 5 in 10,000 people. More than 6,000 known rare diseases affect up to 6% of the European population. A national rare disease strategy sets out a country's plan to reduce disease burden and improve quality of care for people with rare diseases. This review, requested by the Department of Health in Ireland to inform a new national strategy, described national rare disease strategies in 13 selected countries.

Methods: Strategies published from 2013 to 2023 were identified via online searches for Austria, Australia, Denmark, England, Finland, France, Germany, Ireland, the Netherlands, Northern Ireland, Portugal, Scotland and Wales. National representatives were contacted to confirm the identified resources. Data were extracted for the domains of: aims, priorities, implementation, governance and funding models. Descriptive analysis and narrative synthesis was undertaken.

Results: Improving treatment and coordination of care was a common overall aim. Priorities noted in all strategies were: screening and diagnosis; access to healthcare and coordination of services; rare disease research; and patient representation and empowerment. Implementation details varied to reflect the national context and time of strategy development. More recently-developed strategies included more precise actions and greater emphasis on innovations in genomics than older strategies. Strategies were developed, implemented, monitored and evaluated via combinations of newly-established bodies and or existing health authorities. Six countries did not specify a funding model or dedicated budget for strategy implementation.

Conclusions: National rare disease strategy contents and implementation approaches varied between countries and reflected innovations over time. This review will inform the development of Ireland's new national rare disease strategy.

Key messages:

- This review provided insights into national rare disease strategies over a 10-year period.
- The findings will inform strategy development in Ireland, and are relevant to other countries.

Abstract citation ID: ckae144.861
Scientific policy advice during the SARS-CoV-2 pandemic – a comparison of 25 democratic countries

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Background: The SARS-CoV-2 pandemic required rapid and effective policy responses from governments worldwide, especially in the realm of public health. Due to the global impact of the pandemic, it is important to compare country-specific approaches. A systematic analysis of the role and institutionalization of different bodies of scientific policy advice during the pandemic was conducted to gain insights into scientific policy advice structures and to inform future solutions.

Methods: We contacted the governments of 35 democratic countries about the role and institutionalization of bodies of scientific advisory advice during the pandemic. Data collection took place between September 2023 and March 2024. We analyzed primary data provided by the governments by qualitative systematic document analysis.

Results: We received feedback from 25 countries within the research period (including 19 European countries). The results were divided into three main categories: (1) temporality, (2) structure, function, & composition, and (3) transparency. Further sub-categories emerged that helped to compare and classify the countries' approaches, such as initiation, financing, selection, expertise, and diversity of members, systematics of documentation. For example, some used existing structures from ministries, research institutions or the private sector while others were entirely newly established. National bodies of scientific policy advice mostly developed ad hoc, were temporary, and showed several differences between countries.

Conclusions: Different types of bodies of scientific policy advice were identified in terms of e.g. initiation, function, expertise, and

institutionalization. The results demonstrate a significant variation regarding the role and impact of scientific policy advice during the SARS-CoV-2 pandemic. Our study can help to identify essential aspects of scientific policy advice and to formulate recommendations for future health crises.

Key messages:
- The innovative methodological approach and the data which was collected from 25 countries give new insights into an important field of research.
- National bodies of scientific policy advice mostly developed ad hoc, were temporary, and showed several structural differences between countries.

Abstract citation ID: ckae144.862
Factors for sustainable cross-sector collaboration for health equity: a Dutch qualitative study

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Background: Cross-sectoral collaboration between healthcare and the social domain is necessary to address the complexity of health inequity. However, this collaboration is often unsustainable in the long-term, for example due to temporary budgets and professionals changing jobs. We explored the factors that facilitate or restrain sustainable cross-sectoral collaboration by applying an interdisciplinary theoretical lens combining insights from relevant frameworks from governance, interprofessional learning and health policy. Following, we applied the framework in an 'Integrated Community Approach' in two Dutch cities (Utrecht and Amersfoort).

Methods: A qualitative research was conducted, involving 32 semi-structured interviews with professionals involved in an 'Integrated Community Approach' in the two Dutch cities in 2022 and 2023. Participants worked at various levels of the municipality, or as a local professional in the medical or social domain in the community. Thematic analysis and a deductive approach were employed- based on the theoretical framework.

Results: We identified nine components as important for sustainable cross-sectoral collaboration. Whether these components acted as facilitator or barrier varied between participants, depending on their position and organizational context. The nine components could be summarized into three main mechanisms: 1) the foundation for collaboration, which is dependent on having a shared vision and the competencies to engage residents; 2) a pre-condition, which is having support at management level and having the right resources; 3) support, which is provided by data and flexibility.

Conclusions: Long-term cross-sectoral collaboration is important, complex and depends on various interconnected factors. To improve cross-sectoral collaboration in the long term, it is necessary to disentangle each theme and conduct in-depth analysis of each one individually to facilitate deeper understanding of the context and problem.

Key messages:
- Collaboration between medical and social sectors is challenging, yet significance is clear. While the start is evident, sustaining the 'how' is unclear.
- The opportunities and obstacles of cross-domain collaboration vary among stakeholders, influenced by both their organization and position within it.

Abstract citation ID: ckae144.863
The impact of tobacco retailers density reduction on smoking status of Belgian adults

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Background: Smoking being one of most impactful risk factors for causing non-communicable diseases (NCD) and consequently attributable death, represents an enormous public health issue. New policy interventions aimed at reducing smoking prevalence are planned in the Belgian Tobacco Free Generation plan. Within the plan, it is aimed to reduce the number of outlets that sell tobacco products, as a higher tobacco retail density (TRD) is believed to be linked to higher smoking prevalence. Using health impact assessment (HIA), this study aims to evaluate the policy before it is set in place.

Methods: For this intervention a 17% reduction in density was estimated according to the scoping review would be associated with an 0.39 percentage point reduction in prevalence. The Potential Impact Fraction (PIF) was calculated to assess the change in proportion of current smokers. Time series and projections of the Belgium Health Interview Survey provided data on the smoking status from 1997 untill 2040. The relative risk were retrived from the Global Burden of Disease 2021 study. Using data from the Belgian Burden of Disease Study, the avoidable burden was estimated.

Results: The policy is expected to reduce the density by 17 % by 2025, which results in a PIF for lung cancer of 0.92%, decreasing to 0.82% in 2040. The smoking prevalence would decrease from 12.62% to 12.23%. We estimated that this intervention would avoid the burden of more than 300 lung cancer cases and around 100 deaths in 2040.

Conclusions: The HIA in this study suggests that reducing TRD has a potential to contribute to achieving the objectives in Tobacco Free Generation plan. However, it should be noted that the impact is rather small, lower than 1% for most diseases. In addition, the actual impact may vary depending on the specific implementation of the policy and future smoking trends. Further research is needed to refine the effect size estimate based on the actual policy intervention details.

Key messages:
- Reducing tobacco retail density can reduce the burden of smoking.
- Modeling limitations need further research to refine HIA results.

Abstract citation ID: ckae144.864
Strengthening public health professionals in policymaking in the Eastern WHO European region

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Background: The collaborative research between EUPHA and WHO aimed to explore factors impacting public health professionals' (PHP) involvement in health policy processes in the Eastern WHO European Region, addressing barriers, enablers, and capacity-building needs.

Methods: Utilizing a mixed methodology, the study employed document analysis, scoping review, and interviews to triangulate data, with the document analysis focusing on 4 published Essential Public Health Operations Self-Assessment Reports, the scoping review analysing 15 key articles, and 5 semi-structured interviews providing additional insight from key country stakeholders.

Results: Core findings revealed significant barriers impeding PHPs' participation in policy processes. Among others, these included limited intersectoral collaboration, shortage of skilled public health (PH) personnel, financial resource constraints and inadequate governance structures. Conversely, several enablers were identified, such as a positive trend in increased intersectoral collaboration and innovative governance structures during Covid-19, the development of more trained PHPs and the utilization of International Health Organisations. The two main capacity building needs reported were the importance of modernizing PH education and promoting intersectoral collaboration.

Conclusions: This study offers a preliminary overview of how PHPs' involvement in health policy processes in these countries can be enhanced: More intersectoral collaboration, updated PH education curricula and trainings, and governance re-design building on positive trends seen during the pandemic. Following actions are recommended: Creation of an international platform for cross-sectoral PH communication & exchange, direct support for universities and PH researchers, development of comprehensive PH trainings, assistance in forming or strengthening national public health associations and identification & sharing of effective local governance practices.

Key messages:

- This research identifies barriers to PHPs’ participation in Eastern WHO European Region's health policy processes, while highlighting enablers like increased collaboration during Covid-19 to build on.
- Recommendations to harness the enablers include clear actions such as creating an international public health platform for interaction and exchange or build-up of national public health associations.

Abstract citation ID: ckae144.865
Decision-making under pressure: ethical considerations in COVID-19 policy making in Switzerland

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Background: Policy making and science were deeply intertwined during the COVID-19 pandemic, particularly in justifying health policy measures with ethical considerations being at the core of decision-making trade-offs. However, not much is known about the actual ethical challenges encountered by policy makers and scientists involved in policy advice. This study aims to explore the ethical challenges in COVID-19-related political decision-making as perceived by Swiss policy makers and scientists involved in policy making, the role of ethics advice, and what can be learned for future public health crises.

Methods: Thirteen qualitative expert interviews were conducted with policy makers and scientists involved in COVID-19 policy decisions in Switzerland at regional and national levels. We used inductive thematic content analysis to analyse the interviews.

Results: Key ethical challenges included making trade-offs between common vs. individual good and economic welfare vs. health of the population, proportionality of policy measures, and public capacity to handle uncertainty. Opinions varied on the sufficiency of ethical considerations on the policy level. Constraints included a lack of time in the fast-paced dynamic of the pandemic, ethics as a complex subject area, its overlap with law, too much focus on few topics such as vaccination-related questions, and individual character traits, such as the dominance of medical professionals over ethicists. While ethics support was deemed adequately present in the decision-making process, there were calls for more ethics training, involvement of the public in the discourse, and for accompanying communication to build trust among the population for the future.

Conclusions: The study offers empirical insights into the ethical considerations of COVID-19 policy making in practice in Switzerland, providing a basis to enhance ethics support for future crises also in other countries.

Key messages:

- This study uncovers the key ethical considerations in Swiss COVID-19 policy making, emphasizing constraints to sufficient ethical discussions.
- Enhanced ethics training and greater public engagement is needed in future health crises to build trust and improve decision-making in future health crises.

Abstract citation ID: ckae144.866
Heterogeneous courses of cardiovascular disease incidence in Europe 2000-2019 – what are the causes?

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Background: Data from the Global Burden of Disease (GBD) project distributed by the Institute for health metrics and evaluation (IHME) include incidence and prevalence data for almost all countries in the world. In course of own research, the data on cardiovascular disease (CVD) incidence in Western European countries were analysed and revealed great variation in the course of CVD incidence, that is difficult to interpret. We want to present the different courses of CVD incidence for selected countries and discuss possible reasons for this diversity with the audience.

Methods: GBD data on CVD incidence and mortality for 25 European countries from 2000-2019 for men and women were to graphically display courses of CVD incidence for visual analysis.

Results: The course of CVD incidence in Western Europe is country-specific - and, within a country, even sex-specific. Yet, in many countries besides the Baltic states and Czechia, CVD incidence reaches a minimum in 2010, increasing afterwards again. Different patterns of incident courses were visible:

a) wave-shaped courses which increase e.g. in Austria, Belgium, France and in males in Finland only, but decrease for both sexes Germany, Norway, Portugal and Poland, and in males in Denmark

b) u-shaped courses in Spain, Great Britain, France, Italy, and for Finnish and Dutch females

c) linearly increasing for both sexes in Czechia, the Baltic states and in Swiss males

d) linearly decreasing for women Norway, Belgium, Denmark and Austria.

Conclusions: The patterns of CVD incidence in Europe are multitude and country-specific even between sexes, reaching a minimum in 2010 in most countries. The validity of analyses combining these different patterns for regional analyses of CVD incidence such as in GBD reports do not take account for this diversity. Unless these differences can be explained by country-specific prevention or risk factor profile, the validity of data on CVD incidence seems to be limited.

Key messages:

- CVD incidence in Europe between 2000 and 2019 is country-specific changing and very heterogeneous.
- Analyses summarizing data for (Western/Eastern) Europe will miss this heterogeneity and might come to invalid conclusions regarding the development of CVD incidence.

1.S. Poster walk: Health workforce, education and training

Abstract citation ID: ckae144.867
Knowledge, attitudes and practices of Italian general practitioners on food supplements

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Background: Food supplements are widely used, but they can be dangerous if used inappropriately, as they often interaction with patients' treatment. Their misuse has public health and patient out-of-pocket expenditure implications; general practitioners (GPs) play a central role in managing patient safety. This study aims to investigate the knowledge, attitudes and practices (KAP) of Italian GPs' toward the use of food supplements.
Methods: From March to April 2024, an online survey was conducted via the EU-Survey platform among Italian GPs invited through their professional organization. The 62-question survey, adapted from a tool used among pharmacists, comprises two sections: A) KAP questions (28 true/false, 34 on a 5-point Likert scale) and B) socio-demographic questions (i.e. age, sex, years of experience, urban/extra-urban environment). Survey reliability was evaluated using Cronbach alfa and responses were analysed to look for differences between sub groups using Kruskal Wallis Test.
Results: 202 GPs participated in the survey, 46.0% were male, 53.5% female and 0.5% non-binary, with a mean age of 47±2 years. The majority (70.3%) came from an urban environment and 54.9% worked in group medicine. Only 53.5% of GPs showed an adequate knowledge of the topic (more than 60% of correct answers), with a mean of 18 correct answers. The overall reliability of the test was evaluated as acceptable (alfa>0.7). The 99.5% of GPs interview agreed (score 4 or more on the Likert scale) that they have an important role in food supplements prescription and 98% are involved in life styles counselling activities, but only 66.3% felt they have adequate formation on the topic. No statistically significant differences between population groups were found ($p < 0.05$).
Conclusions: Although GPs have recognized their key role in prescribing food supplements, there seem to be a general lack of knowledge on the subject that requires targeted educational interventions to ensure patient safety.
Key messages:

- Food supplements are often taken by patients because they are under the impression that these products are always and completely safe.
- Clinical recommendations for the use of food supplements are much more limited than their actual use.

Abstract citation ID: ckae144.868
A Delphi method approach to consensus - based translation of 'Second Victim' definition into German

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Background: Healthcare providers involved in unanticipated adverse patient events, unintentional healthcare errors, or patient injuries, and who become negatively impacted, are defined as 'Second Victims'. The term Second Victim has gained substantial attention since its inception around 2000, yet lacks a standardized definition in the German context. This study addresses this gap by proposing a consensus-based translation of the term into German, aiming to foster understanding and facilitate research comparability.
Methods: A Delphi method approach was employed, engaging a panel of German-speaking, clinically and scientifically active Second Victim experts. The study was conducted using an online survey and commenced with the reference of the consensus- and evidence-based definition from the European Researchers' Network Working on Second Victim (ERNST) published in 2022.
Results: Nine out of eleven invited experts participated in the study, contributing to a robust consensus-building process. Through three Delphi rounds, a consensus rate of 90% was attained for the translation of the international definition of a Second Victim. The resulting definition provides a comprehensive understanding of the term within the German context.
Conclusions: This Delphi study establishes a formal consensus among recognized experts, delivering a German-language, evidence-based definition of the term Second Victim. It serves as a crucial foundation for understanding and further researching the Second Victim phenomenon within the German-speaking healthcare community.
Key messages:

- Consensus-based German translation of Second Victim enhances clarity in healthcare discourse.
- Delphi method with German experts yields unified definition, promoting the coherence of patient safety research.

Abstract citation ID: ckae144.869
Does staffing impact health and work conditions of staff in long-term care homes?: a scoping review

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Background: Long-Term Care (LTC) homes are highly regulated and task oriented, with demanding work and insufficient resources. Chronic underfunding of the sector, coupled with increased complexity of care, has deteriorated working conditions, resulting in precarious employment, intensified and stressful work, and decreased job satisfaction. These work conditions have contributed to severe staffing shortages of healthcare workers globally. To meet increased labour demands, OECD countries on average will need to increase the proportion of overall employment dedicated to LTC by 32% over the next decade. While reviews of literature have examined the association between staffing and care outcomes for residents in LTC, they have not examined how staffing structures affect the healthcare staff themselves. This scoping review asks: How does staffing impact the health of staff and working conditions in LTC?

Methods: A scoping review of empirical peer reviewed and grey literature was conducted to examine the association between LTC staffing practices and how they impact working conditions and the health and well-being of staff. PubMed, CINHAL, and Scopus databases were searched for relevant articles published within the past 10 years.

Results: Searches yielded 3994 unique articles, which were independently screened by pairs of reviewers. Preliminary results highlight that staffing levels are not optimized for healthy, sustainable work conditions. The level of staff, their skill mix, and ratios all impact the ability to provide care. In circumstances where there is inadequate staffing, care workers are more likely to experience stress, burnout, job dissatisfaction, and increased injury and illness.

Conclusions: Staffing practices shape working conditions which impact healthcare workers own health outcomes. To facilitate a strong LTC workforce, working conditions and occupational health need to be a priority in improvement initiatives.

Key messages:

- With extreme staffing shortages challenging the healthcare sector, this review highlights the need for heightened attention to the impact of staffing practices on the healthcare workforce.
- Improving working conditions and attuning to the needs of the workforce, ultimately improves quality of care.

Abstract citation ID: ckae144.870

Assessment of adults' misconceptions for Human papilloma virus through development of an instrument

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Background: Misconceptions, myths, and conspiracy theories surrounding Human papilloma virus (HPV) are prevalent and diverse. To comprehensively address these misconceptions about HPV, the HPV Misconceptions Scale (HPV-MS) was developed and implemented, which supports public health initiatives aimed at combating HPV-related diseases.

Methods: This methodological and cross-sectional study collected data from May 2 to June 28, 2022, involving two sequential participant groups, starting with 150 and expanding to 471 individuals. The survey, which collected demographic data, HPV-MS responses, variables thought to be associated with HPV-MS scores, and knowledge levels using the HPV Knowledge Scale (HPV-KS), was distributed via social networks and analyzed using SPSS and JASP.

Results: The HPV-MS, which includes 26 items and explains 46.8% of the variance, demonstrated substantial reliability with a Cronbach's alpha of 0.691. The scores ranged from 2 to 20, with a median score of 14. Higher HPV-MS scores, indicating fewer misconceptions, were associated with younger age, higher education levels, absence of a family history of cervical cancer, and greater knowledge about HPV. Analysis revealed that HPV-KS scores were significant predictors of HPV-MS outcomes, even when controlling for other variables.

Conclusions: HPV-KS scores significantly predicted HPV-MS outcomes, highlighting the importance of knowledge in reducing misconceptions. Additionally, the HPV-MS effectively identifies widespread misconceptions about HPV, which is crucial for designing targeted educational measures. The wider use of this tool could help refine strategies to address HPV-related misconceptions across diverse populations.

Key messages:

- HPV-KS scores were significant predictors of HPV-MS outcomes, even when controlling for other variables, highlighting the importance of knowledge in reducing misconceptions about HPV.
- The HPV-MS effectively identifies widespread misconceptions about HPV, which is important for designing targeted educational measures.

Abstract citation ID: ckae144.871

Ready or not? The state of emergency preparedness among Italian Public Health medical residents

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Background: Italy frequently experiences major events like earthquakes, floods, and migrant shipwrecks, reflecting global concerns that also include climate change, pandemics, and wars. This study aims to assess the role of public health experts and the current state of Italian post-degree Public Health schools in addressing these challenges.

Methods: In June 2023, a cross-sectional online survey was administered to all Italian Public Health residents enrolled in the Italian Society of Hygiene, Preventive Medicine, and Public Health (SItI). The survey investigated the availability and frequency of training and updates related to emergencies, measured the interest and perceived importance of these topics among residents, examined the impact of the COVID-19 pandemic on their awareness, and identified their primary sources of information in the subject.

Results: Out of 289 respondents, a significant majority (86.2%) acknowledging the importance of being trained in emergency management and 74.4% expressed interest in topic ($p < 0.001$). A 90.1% of residents indicated a lack of dedicated courses and 93.1% reported an absence of specialized master's programs ($p < 0.001$). There was a strong correlation between recognizing the importance of the topic and the desire to attend specialized conferences ($p < 0.001$). The COVID-19 pandemic had a noticeable impact: 24.6% recognized the importance of the topic pre-pandemic, while 50.9% raised awareness during ($p < 0.001$).

Conclusions: The findings highlight a critical gap in the training of public health professionals in Italy, particularly in the domain of emergency preparedness and management. There is a pressing need to establish enhanced, uniform training programs across different public health training networks in Italy. Implementing such programs would ensure a more robust and effective response to future emergencies, thereby safeguarding public health and improving outcomes during crises.

Key messages:

- Significant gap in specialized training and awareness among health professionals.
- Urgent need for emergency preparedness training in public health.

Abstract citation ID: ckae144.872
How do palliative care clinicians use their emotions during end-of-life encounters?

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Background: Palliative care clinicians are regularly exposed to emotionally laden end-of-life care situations. Until now, the use of their emotions during palliative care consultations has remained understudied. We aimed to develop a theory to understand how palliative care clinicians use their emotions.

Methods: Qualitative data were collected via individual interviews held with different types of palliative care clinicians across the world (countries were selected based on their Quality of Death Index ranking). We used a social constructivist grounded theory approach to analyze the data using a constant comparative method.

Results: We held interviews with 21 palliative care clinicians (5 nurses, 11 physicians, 2 psychologists, and 3 social workers) from 10 different countries. Fourteen were female. Participants' average age was 46 and they had 14 or more years of palliative care experience. The mean length of the interviews was 52 minutes. The process of using emotions could be characterized as follows: first, a difficult end-of-life encounter (e.g. ethical dilemmas or conflicts) would trigger a strong emotion in clinicians. Second, clinicians become aware of the specific emotion via its physical or psychological cues. Third, an assessment of the appropriateness of the use of the emotion follows, in which facilitators and barriers (e.g. the level of emotion skills, the view on emotions, or the feeling of safety in the team) interplay, influencing the clinician to act upon a specific emotion or not. Finally, with a specific intent (e.g. to build connection, stimulate patients and relatives to express their feelings, or clarify a point of view) the clinician shares, shows, or expresses the emotion.

Conclusions: We found that the strong emotions clinicians experience can be used as a valuable resource to provide palliative care. We also identified key steps to aid clinicians reflect on the appropriateness of using certain emotions in patient care.

Key messages:

- Palliative care clinicians' emotions can be considered as tools to support palliative care provision.
- The developed theory shows potential to explore its applicability in other professions that are also regularly confronted with emotionally charged situations.

Abstract citation ID: ckae144.873
Incentives to attract and retain physicians to underserved areas - a case study from Portugal

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Issue: Physician shortages in underserved areas are a common challenge for governments and policymakers worldwide, including in Europe. Meanwhile, a knowledge gap exists on effective measures to address the issue.

Description: According to WHO Europe, one of ten actions to strengthen the healthcare workforce is to develop strategies to attract and retain health workers in rural and remote areas. Portugal faces geographical asymmetries in the distribution of physicians, and difficulties in retaining them in certain areas of the country. This case study seeks to describe and analyse the impact of an incentives package introduced in 2015 that aimed to attract and retain physicians in underserved areas. Financial incentives data was gathered via a national health human resources information system. Non-financial incentives data was reported by health institutions through an online form. Document analysis was conducted to understand the scope of the incentives package and its amendments.

Results: The incentives package implemented in Portugal effectively deployed physicians to underserved areas, since it led to a fourteen-fold increase in physicians settling in underserved areas. In terms of retention, an average of 59% of the physicians that took up the incentives package are still practicing in the same underserved area. However, the difference between the retention levels of physicians under the incentives package and those not covered is minimal. To further reduce health inequities and achieve universal health coverage, a need exists to review the financial and non-financial incentives to better suit physicians' needs and expectations, as well as those of the National Health Service.

Lessons: The incentives package introduced in Portugal makes it clear that flexibility in the design of attraction and retention measures is crucial. It requires a long-term commitment and a recognition that each intervention should be assessed and adapted to local circumstances and context.

Key messages:

- The incentives package introduced in Portugal attracted physicians to underserved areas and led to a fourteen-fold increase in physicians settling in underserved areas.
- More than half of the physicians are still practicing in the same underserved health institution but the difference in retention against those not covered by the incentives package is minimal.

Abstract citation ID: ckae144.874
Strengthening the quality of primary healthcare services and interdisciplinary collaboration

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Background: Political organisations stress the need for preventive strategies to reduce the amount of avoidable hospital admissions, i.e. admissions that could have been avoided given timely and adequate care in the primary healthcare setting. Interdisciplinary collaboration has been suggested as a means to prevent hospitalizations, but effective implementation remains a challenge. Thus, there is a need for evidence-based strategies to prevent avoidable admissions and support interdisciplinary collaboration. The aim was to develop an evidence-based framework for preventive and coordinated interventions strengthening the quality of primary healthcare services and supporting interdisciplinary collaboration.

Methods: The project consists of three sub-studies: 1) a mixed methods systematic review following the JBI methodology; 2) a focus group study with primary healthcare providers in the Central Denmark Region, including general practitioners, physiotherapists, occupational therapists, home care providers, registered nurses and nurse specialists; and 3) a study using participatory design, where a framework for coordinated interventions were developed based on the results from study 1 and 2, supported by all stakeholders.

Results: Findings suggest that some hospitalizations can be prevented by intervening on mental factors, e.g., through trustful relations, and social factors, e.g., living situation. Also, a strong collaboration between healthcare providers from different disciplines and healthcare services is needed to improve the care pathway and prevent hospitalization. The collaboration may be strengthened if the health providers share a common language regarding the citizens' health status.

Conclusions: Stakeholders at all levels should be informed about the relevance of considering mental, social and physical factors to improve the quality and responsiveness of primary healthcare services and to develop initiatives to support interdisciplinary collaboration.

Key messages:

- By focusing on the whole person, it could be possible to provide more person-centred care through interdisciplinary collaboration and ultimately to prevent some admissions.
- Well-established primary healthcare services are important to provide person-centred care through interdisciplinary collaboration.

Abstract citation ID: ckae144.875
Interaction between alcohol intake and employment status changes on mortality among young workers

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Background: To investigate the impact of changes in employment status and their interaction with alcohol consumption on health outcomes among young workers. This study aims to explore how employment fluctuations, periodic unemployment, and economic activity levels influence the health of economically active individuals, focusing particularly on the synergistic effects that these employment changes may have when combined with alcohol consumption.

Methods: We conducted a retrospective cohort study using data from the Korean National Health Insurance Service database. The study included individuals aged 25-44 years who underwent health check-ups between 2009 and 2010. We categorized changes in employment status into three groups: continuously employed, economically active with employment fluctuations, and periodically unemployed. We estimated adjusted hazard ratios and 95% confidence intervals using multivariable Cox proportional hazard models to assess the impact of changes in employment status on the risk of all-cause mortality. The relative excess risk due to interaction, a widely accepted indicator of additive interaction, was used to assess the interaction between alcohol consumption and changes in employment status.

Results: Changes in employment status significantly increased the risk of all-cause mortality in both men and women in the economically active with employment fluctuations and periodically unemployed groups compared with the continuously employed group. The synergistic effect of alcohol consumption and changes in employment status on the risk of all-cause mortality was significant only among men.

Conclusions: The findings of this study indicate that changes in employment status, particularly when combined with alcohol consumption, significantly affect all-cause mortality among young workers.

Key messages:

- Employment status fluctuations combined with alcohol consumption significantly increase all-cause mortality risks among young workers, especially men.
- This study emphasizes the urgent need for targeted interventions that address the combined impact of employment and lifestyle factors on public health.

Abstract citation ID: ckae144.876
Future proof competencies for nurses working in primary care; a mixed methods study

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Background: Healthcare services, also those provided by nurses, are challenged by the increasing care demands of an ageing population and people with chronic conditions. To improve care efficiency and quality, now and in the future, nurses must have competencies regarding self-management support of patients, electronic communication, preventive care, and engaging relatives in care. This study aimed to assess primary care registered nurses' (RNs) time allocation to these competencies and their perceived needs for further development of these competencies.

Methods: A mixed methods design was used, involving a nationwide survey ($n = 303$) and focus groups (12 participants), both with RNs working in community care services or general practitioners (GPs) practices. Survey data were analysed descriptively, and focus group transcripts underwent qualitative thematic analysis.

Results: The majority of RNs invest significant time in client self-management support (90%), preventive care (82%), and involving relatives in care (74%). RNs also recognized an increasing demand for these competencies in the future and the need to motivate patients and relatives to self-manage their health. Furthermore, RNs reported that competencies regarding electronic communication skills will become extra important in the future, yet currently only 37% dedicate substantial time to this. RNs face challenges in effectively utilizing electronic communication with patients and thus need opportunities to improve digital skills. Additionally, RNs desire enhanced collaboration with other healthcare professionals, such as GPs and medical specialists.

Conclusions: RNs' limited time allocation and perceived inadequacy in electronic patient communication, underscore the importance of targeted training in this area, and prioritizing this by healthcare organizations. In addition, fostering collaboration between nursing staff and other healthcare professionals could support future proof nursing in primary care.

Key messages:

- Nurses demonstrate resilience in addressing healthcare challenges, emphasizing client care, prevention and family engagement.
- Training nurses in competencies for electronic communication with patients is essential to meet the anticipated increase in demand for this aspect in their practice.

Abstract citation ID: ckae144.877
Let's Get Walking: Establishing Workplace Walking Groups in a regional Public Health Department

Ciara Kelly

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Maintaining staff health and wellbeing (HWB) is an ongoing priority for the Department of Public Health HSE Dublin and Midlands (PHD). This is particularly important in the context of an ongoing programme of reform for Public Health in Ireland. To support this priority, in November 2023 a pilot Workplace Walking Groups initiative was established to increase workplace physical activity and build team relationships. The initiative was designed following staff feedback on team HWB initiatives in September 2023. The Model for Improvement (which includes the Plan-Do-Study-Act cycle) was used to take a structured quality improvement approach to the development and evaluation of the 4-week pilot, led by the PHD HWB Committee. Staff joined across 3 sites. Lunchtime walks were arranged for 1-2 days per week. WhatsApp groups and email supported group communication. Quantitative data on registration and attendance were collected via Microsoft Excel. A virtual focus group was arranged to gather participant feedback, which was analysed into themes. Group registration ($n = 10$, $n = 9$, $n = 5$) and weekly attendance varied by site ($n = 10$, $n = 9$, $n = 5$). Key benefits noted by participants included physical activity, building relationships with colleagues, and getting fresh air. The main barrier was the impact of work schedules on attendance. There was broad support for re-establishment of Workplace Walking Groups for 2024. This pilot Workplace Walking Groups initiative achieved its dual aim of increasing physical activity and social connection among staff. Learning from this pilot informed the launch of a 3-month Walking Groups term for Spring 2024. The initiative is now established practice and is a component of the Department's blended working policy, being a feature of on-site working days.

Key messages:

- Our successful pilot Workplace Walking Groups project has translated into a sustainable health and well-being initiative for staff, during a time of ongoing reform across Public Health in Ireland.
- A structured approach to designing and implementing staff health promotion initiatives is crucial to support the cycle of learning and improvement, and to sustain change over time.

2.R. Poster walk: Health care services and systems

Abstract citation ID: ckae144.878

Achieving integrated care through clusters of co-occurring diseases for people with multimorbidity

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Background: People with multimorbidity are often seen in many different specialist health services, resulting in fragmented care. Conventional services are designed around specialties based on anatomical systems, rather than diseases that occur together. We examined whether organising services around clusters of co-occurring diseases would lead to fewer interactions with unique services and so improve integrated care.

Methods: We used the Clinical Practice Research Datalink, a nationally representative sample of primary care data in England, including all patients registered on 1st January 2015 with multimorbidity (two or more of 212 long-term conditions (LTCs)). We used the assignment of 212 LTCs to 15 clusters of co-occurring diseases, derived from our earlier work. For each patient, we calculated the number of interactions with different specialists, under both the existing specialty-based model, and the hypothetical cluster-based model, under the assumption that a patient required review for each LTC.

Results: Of 6,200,973 patients with multimorbidity, the mean age was 53 years, with a median (interquartile range) of 8 (5 - 11) LTCs per person. There was considerable variation in the assignment of diseases comparing 15 clusters versus 15 specialties. Under the existing model, 409,708 (6.6%) patients interacted with only one specialty, and under the hypothetical cluster model, 584,446 (9.4%) patients interacted with only one cluster. On average, patients interacted with 3.66 specialties versus 3.30 hypothetical clusters ($p < 0.001$ for difference).

Conclusions: Health services designed around clusters of co-occurring diseases might lead patients to interact with fewer different services and so experience less fragmented care. Further work is needed to understand which specialties collaborating, and how, would have the greatest impact on improving integrated care.

Key messages:

- Health services designed around clusters of co-occurring diseases led to a small reduction in the number of interactions with different services per year.
- Designing services around clusters of co-occurring diseases might reduce fragmented care for people with multimorbidity.

Abstract citation ID: ckae144.879

How common is emergency department as a death place in Portugal and who is more likely to die there?

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Background: Most people would prefer to die at home but most die in hospitals or other healthcare settings. Some of the latter deaths may have taken place in Emergency Departments (EDs), as EDs are a major hospital gateway. However, EDs have not been consistently categorised as a place of death (PoD) across countries. Portugal is an exception. This study aimed to examine trends in deaths at EDs in Portugal from 2015 to 2021, identifying who is more likely to die at the ED.

Methods: We obtained national death certificate data on PoD for 2015 to 2021 from the the Portuguese General-Directorate for Health. We analysed the percentage of deaths taking place at the ED by sex, age group (0-17y, 18-49y, 50-69y, 70-79y, ≥80y), underlying cause of death (cancer, dementia, and other causes) and year of death.

Results: 804.971 people died in Portugal from 2015-2021 (50.1% male; 0.4% aged 0-17y, 58.0% aged ≥80y; 23.3% died from cancer, 5.6% from dementia, and 71.1% from other causes). Of these, 13.2% died at the ED. The percentage of ED deaths was higher in female (13.7% vs. 12.8% in male), in adults (13.3% vs. 9.0% in children), in those dying from dementia (15.7% compared to 9.6% in cancer and 14.3% in other causes). The percentage of ED deaths rose from 10.6% in 2015 to 14.3% in 2021, increasing steadily over time (average 0.6 percentual points per year, representing 1069 additional deaths per year).

Conclusions: One in every ten deaths in Portugal happens at ED and this is increasing. Patients with non-cancer conditions are more likely to die at the ED, in particular those dying from dementia. To understand if this reality compares with other countries, we are developing a pioneering international classification of place of death which includes the ED. Funding: European Research Council (agreement nr. 948609).

Key messages:

- Emergency department (ED) is a significant PoD in Portugal and has increased from 10.6% to 14.3% (2015-2021). Non-cancer patients, especially those with dementia, more likely to die at ED.
- This study highlights the need for an international place of death classification to compare emergency department death trends across countries.

Abstract citation ID: ckae144.880
The Effect of Multidisciplinary Care on Polypharmacy in Advanced Cancer Patients near the End of Life

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Objectives: Multidisciplinary Team (MDT) aims to integrate cancer patient care plans and provide holistic care to improve clinical outcomes and quality of life. However, there is a lack of empirical evidence regarding the effect of MDT on polypharmacy in advanced cancer patients near the end of life, which warrants further investigation.

Methods: This retrospective cohort study utilizes the National Health Insurance Research Database (NHIRD), Taiwan Cancer Registry, and Cause of Death Statistics, provided by the Health and Welfare Data Science Center (HWDC), Ministry of Health and Welfare (MOHW). The study subjects were patients who were diagnosed with stage III or IV cancer, aged 65 or above, experienced recurrence or metastasis, and who died between 2014 and 2020. Propensity score matching (PSM) was employed, followed by analysis using the Generalized Estimating Equation (GEE) to examine the differences in the risk of polypharmacy in the last 30 days before death. In addition, to confirm the robustness of the results, we conducted two different sensitivity tests: the first way is to use different ages as sample selection criteria and only include people who died over 75 years old as study subjects; the second way is to use conditional logistic regression models as a multivariate statistical method.

Results: There were 35537 samples before matching, including 4942 who received MDT care and 30595 who did not. After 1:1 matching, 9884 patients were finally included in the analysis. The prevalence of polypharmacy significantly decreased during the study period from 59.90% to 58.80% ($p = 0.03$; trend test). When examined through different PIM criteria, patients who received care from MDT exhibited a lower risk of polypharmacy (OR = 0.91, 95% CI = 0.84-0.98).

Conclusions: Advanced cancer patients who received care from MDT during the end-of-life period had a significantly lower risk of polypharmacy.

Key messages:

- The prevalence of polypharmacy significantly decreased during the study period from 2014 to 2020 among advanced cancer patients.
- Advanced cancer patients who received care from MDT during the end-of-life period had a significantly lower risk of polypharmacy.

Abstract citation ID: ckae144.881
Performance and trend of core measures among oral cancer patients: A population-based cohort study

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Objectives: This study explores the performance and trend of core measures, which were established as evidence-based indicators to assess and improve the quality of care for oral cancer patients.

Methods: This retrospective cohort study uses the National Health Insurance Research Database (NHIRD), Taiwan Cancer Registry, and Cause of Death Statistics, provided by the Health and Welfare Data Science Center (HWDC), Ministry of Health and Welfare (MOHW). The study population was adult patients hospitalized for oral cancer surgery with stage I-IV between 2014 and 2021. The trend tests and the generalized linear mixed model (GLMM) were applied.

Results: A total of 23392 oral cancer patients were enrolled. The core measure set used in this study included five indicators (two process-related and three outcome-related indicators). Process indicators' mean achievement rates significantly increased from 82.6% to 85.7% ($p = 0.018$, trend test). On the other hand, most patients demonstrated good achievement rates to the outcome indicators (98.9% to 99.3%) ($p = 0.218$, trend test). Overall indicators' 100% achievement rate increased over time from 62.9% in 2014 to 66.2% in 2021 ($p < 0.001$, trend test). Subgroup analyses were performed by age, stage, and comorbidity score. The analysis of the GLMM revealed that the 100% achievement to overall indicators was positively associated with age<45, not-low socioeconomic status, body mass index ≥ 24, squamous cell carcinoma, recent treatment year, treated with surgery only, negative surgical margins, and receiving care in a high-volume hospital (all $p < 0.01$).

Conclusions: The results highlight a significant measurable improvement in the quality of oral cancer care. However, there is still room for enhancement in process indicator performance.

Key messages:

- The results highlight a significant measurable improvement in the quality of oral cancer care.
- There is still room for enhancement in process indicator performance.

Abstract citation ID: ckae144.882
Patient and healthcare provider perspectives on a digital first general practice: mixed-method study

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Background: General practitioners (GPs) are facing an increased workload as a result of an aging population and a growing prevalence of chronic diseases. Utilizing eHealth may help to enhance healthcare accessibility and reduce costs. A digital platform was developed that integrates eHealth into the organizational aspects of general practices. This study aims to provide insight into the experiences of patients and healthcare professionals with this new, digital way of working.

Methods: A mixed-method study was conducted in three Dutch general practices working with the digital platform. The digital platform focuses on digital communication and remote healthcare delivery in primary care. Primary outcomes included acceptability, the implementation process, suggestions for improvement, and facilitators and barriers for future implementation. Patient perspectives were identified through online questionnaires and focus groups, and healthcare professionals' experiences were explored through in-depth interviews.

Results: Five focus groups and ten in-depth interviews were held. The questionnaires were completed by 616 patients. Patient acceptability of the care concept was high (M = 3.9, SD = 1.0; on a scale from 1-5) and they were satisfied with received care (M = 30.1, SD = 3.4; on a scale from 8-32). Regarding the perceived quality of consults, patients were positive about the longer duration of physical consults (i.e., 20 instead of 10 minutes). Some participants indicated a less personal doctor-patient relationship, because care was provided by various GPs.

Conclusions: Overall, patients and healthcare professionals were positive about the digital platform. The study gives insights into how to improve the care concept, e.g., how to enhance the doctor-patient relationship.

Key messages:

- Digital first general practices that integrate eHealth into the practice's organizational aspects of are considered acceptable by patients and healthcare professionals.
- Digital first general practices can help to improve healthcare accessibility for both patients and healthcare professionals.

Abstract citation ID: ckae144.883
Impact of bundled payments on healthcare use and costs for cardiovascular diseases in the Netherlands

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Background: Bundled payments for patients with cardiovascular diseases (CVD) aim to enhance primary care utilization in the Netherlands. This study assesses changes in healthcare utilization patterns and costs for CVD between 2015 and 2019, while investigating the potential association with bundled payment adoption.

Methods: We studied patients at very high risk for CVD using routinely recorded nationwide healthcare data. Multilevel logistic- and gamma regressions were conducted to assess healthcare utilizations patterns between 2015 and 2019, and the impact of bundled payments on the likelihood of receiving medical specialist care and the height of associated costs.

Results: The odds of medical specialist involvement declined over time for the 148,876 patients included in our study. This decline was significantly associated with practices' use of bundled payments. Medical specialist costs did also significantly decrease between 2015 and 2019, and patients in practices with the highest level of bundled payments had significantly lower medical specialist costs. When general practice costs were included however, healthcare costs per patient stayed the same, both over time and stratified by use of bundled payments.

Conclusions: Our findings suggest an association between bundled payments and specialized healthcare use, potentially facilitating the transition to primary care. While we found no evidence for costs savings, our findings do support a reduction in spending growth.

Key messages:

- We evaluated the impact of bundled payments as a means to facilitate integrated care, and found that bundled payments were associated with lower uptake of specialized medical care.
- We found no cost savings were found, but findings do support reduced spending growth.

Abstract citation ID: ckae144.884
Ethical Dilemmas in Home Palliative Care

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Background: In the past two decades, there has been a noticeable shift towards home-based care, reflecting the broader trend among OECD countries to prioritize a comprehensive approach to health and well-being. This approach emphasizes preventive and proactive measures, often relying on home-based care delivered by multidisciplinary teams providing both curative and palliative care. However, the unique nature of providing care in a home environment raises ethical questions among healthcare providers, necessitating high levels of attentiveness and sensitivity from the caregiving team to address them effectively.

Research Objectives: This study aims to identify ethical challenges encountered by a multidisciplinary team, as perceived by managers of an organization offering home palliative services in Israel.

Methods: A qualitative study was conducted, involving interviews with nine key managers to explore prevalent ethical issues in delivering home-based care.

Findings: Thematic analysis unveiled common ethical dilemmas in providing Home Palliative Care. These dilemmas include balancing patient preferences with professional obligations, addressing the needs of both patients and their families, navigating caregiver-patient relationships, understanding patients' cultural backgrounds, and advocating for home care as the preferred option while considering alternative treatment approaches.

Conclusions: Home palliative care poses ethical dilemmas for caregiving teams. It's imperative for organizations in the home care sector to devise strategies aimed at assisting teams in navigating these challenges while upholding the autonomy and dignity of patients within their home environment.

Key messages:

- Home-based care faces ethical challenges, requiring strategies to balance patient preferences and professional duties.
- Ethical home hospice care needs strategies that respect patient autonomy and dignity.

Abstract citation ID: ckae144.885
Scoping the EU's health impact in the Southern Neighbourhood: Building resilience and trust

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Background: The European Neighborhood Policy (ENP) focuses on security, migration, and economic stability. Strengthening health systems can contribute to these aims by building local resilience and institutions; however, little is known about the EU's health policy and impacts in the Southern Neighborhood (Syria, Lebanon, Jordan, Palestine, Egypt, Libya, Tunisia, Algeria, Morocco). This paper examines the role of health in the ENP and what is known about the health-related impacts of EU actions in this region.

Methods: This is a qualitative case study of the EU's ENP commitments, outcomes, and impacts (2004-2024) in nine middle-income Southern Neighborhood countries. A scoping review of empirical evidence included 5 scholarly databases and grey literature published. Retrieved publications and the ENP documents were thematically analysed with WHO's health systems building blocks and the alignment between the ENP and practice was assessed.

Results: ENP health actions have evolved from public health and selected communicable diseases (2004), to health service delivery, vaccine supply, and occupational health (2021). The review included 19 publications (2004-2024). Publications most often addressed the financing (n = 14 papers) and service delivery (n = 9) aspects of health systems (not mutually exclusive), and only once addressed workforce and health information. Publications addressed mostly intentional EU health actions in the region; 4 papers reported unintentional effects.

Conclusions: The limited scope of health actions in the ENPs suggests health may be instrumentalised to pursue the EU's security and stability goals. The type of EU health actions reported most often in the literature were consistent with the ENP health priorities. There is no systematic evaluation of the impacts of the EU's health-related commitments in the ENPs. To build resilience and trust in the region, future EU action should support a range of WHO building blocks and mitigate potential negative effects.

Key messages:

- The EU's health commitments in the European Neighborhood Policy evolved from public health & communicable diseases (2004), to health service delivery, vaccine supply, & occupational health (2021).
- There is no systematic empirical evaluation of the impacts of the EU's health-related commitments in the European Neighborhood Policy.

Abstract citation ID: ckae144.886
The effect of team-model on healthcare usage and treatment levels among people with type 2 diabetes

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Background: In North Karelia Finland, a team-based service model was implemented in some municipalities' primary healthcare (PHC) centers during 2020. In this team-model, a healthcare customer contacts a nurse who initiates the service process immediately. Nurses can also consult or direct customers to other healthcare professionals and arrange physical appointments if needed. The aims of the model are improved customer and personnel experience and satisfaction, and improved quality and effectiveness of care. We assess the effect of this team-model on treatment levels, measurement activity, and health care usage among patients with type 2 diabetes (T2D).

Methods: Patients with T2D were identified using the ICD-10 code E11 from the regional electronic health records. The data include all patients diagnosed by 2016 who were alive and residing in North Karelia in 2023 (N = 6312). Diabetes-related contacts with nurses or doctors in outpatient PHC and specialized healthcare (SHC) were considered, along with measurement activity and levels of glycated hemoglobin (HbA1c) and low-density lipoproteins (LDL) between the years 2017 and 2022. Annual differences between areas were analyzed using logistic and linear mixed models.

Results: In 2017, patients' mean age was 66 and age range 20-93. The proportion of men was 55% and 45% resided in team-model areas in 2023. The team-model increased T2D-related outpatient PHC remote contact with nurses for a couple of years. But eventually they decreased to a lower level than before. Additionally, the team-model reduced the number of other contacts. An increased difference between areas in measurement activity on HbA1c and LDL levels was also observed. But the difference between areas in proportion of those who achieved treatment targets stayed unchanged.

Conclusions: In the long-term, the team-model reduced the number of T2D-related contacts and increased the measurement activity of HbA1c and LDL, but it had no effect on treatment levels.

Key messages:

- Team-based service models might potentially reduce service use in the long term.
- More research and evidence are needed on the effectiveness and cost-effectiveness of team-based service models.

Abstract citation ID: ckae144.887
Pharmacist care for hypertension management among patients with diabetes: a systematic review

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Background: Improving blood pressure (BP) control is of major importance among patients with diabetes, due to their high risk of micro- and macrovascular complications. Community-based models of care with the involvement of pharmacists and other nonphysician healthcare providers can help manage hypertension. We aimed to estimate the effectiveness of pharmacist interventions, alone or in collaboration, on BP among outpatients with diabetes and hypertension.

Methods: We conducted systematic searches of randomized controlled trials assessing the effect of pharmacist interventions on BP among outpatients with hypertension and diabetes compared to usual care. The outcome was the systolic and diastolic BP change or BP control. We performed a meta-analysis with random effects models and results are presented by mean difference along with relative 95% CI.We will perform subgroup analyses for the types and intensity (duration, frequeny) of pharmacist interventions, patients' characteristics, and healthcare settings. The protocol was registered in PROSPERO (CRD42021279751) and published in an open-access peer-reviewed journal.

Results: Out of 2048 study records identified by electronic database searching, we included 9 studies, with 5067 participants, published between 2008 and 2022. These studies were conducted mainly in North America (n = 5; other regions: n = 4). The intervention was led by the pharmacist in 78% of the studies and in collaboration with other healthcare providers in 22%. Pharmacist intervention included patient education in 67%, healthcare providers education in 11% of studies and feedback to healthcare providers in 44% of the studies. Systolic and diastolic BP were reduced after pharmacist intervention by -5.6 mmHg (95% CI: -10.6 to -0.6) and -4.1 mmHg (95% CI: -7.1 to -1.2) respectively. Additional analyses will be presented at the congress.

Conclusions: Pharmacist interventions improve blood pressure control in hypertensive diabetic outpatients.

Key messages:

- Recent hypertension guidelines recommend pharmacist involvement in hypertension care management.
- This systematic review provide updated evidence on the effect of pharmacist interventions on hypertension management of patients with diabetes.

Abstract citation ID: ckae144.888
Standardizing Primary Health Care in Italy: Operational Guidelines for Community Health Houses

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Background: In response to Italy's demographic changes and increasing chronic disease burden, there has been a need to standardize Primary Health Care (PHC) through Community Health Houses (CHHs). This study addresses the gap in a unified approach by developing operational guidelines using a consensus-based method among a national Experts Panel, aiming to enhance the effectiveness and integration of healthcare services across the country.

Methods: A multidisciplinary and multiprofessional workgroup was formed, including stakeholders from various health professions and Italian regions, to develop these guidelines that could integrate different health professional skills. The consensus process involved a series of online and face-to-face meetings, utilizing a modified Delphi method. This approach ensured that diverse expert opinions were harmonized and that the guidelines were relevant to different geographic contexts and healthcare settings.

Results: Through iterative rounds of consultation and revision, the workgroup reached a consensus on key aspects of PHC delivery. These included procedures, digital health tools integration and definition of various roles within the CHHs. Preliminary feedback from pilot implementations has shown improvements in accessibility, care continuity, and patient satisfaction, indicating effective adaptation of the guidelines to local contexts in line with the territorial healthcare Italian reform ratified by Ministerial Decree n. 77/2022.

Conclusions: The consensus-driven development of CHHs guidelines represents a significant advancement in Italy's health policy, promoting a more integrated and efficient healthcare system. These guidelines are anticipated to form the cornerstone of Italy's strategy to cope with its public health challenges, particularly in managing chronic diseases and aging populations. Future work will focus on national rollout and continuous improvement of these guidelines based on ongoing evaluation and feedback.

Key messages:

- Consensus-based guidelines for Italy's CHHs enhance PHC delivery, improving accessibility and patient satisfaction across the Country.
- Italy's new PHC guidelines, developed through expert consensus, set a foundation for a unified, efficient healthcare system to address chronic disease and aging.

Abstract citation ID: ckae144.889
Governance and health system reform: a case study of new health regions in Ireland, 2018-2023

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Background: While the significance of good governance is recognised within health systems research, its role in health system reform is underexplored. This research focuses on the establishment of new decentralised regional health structures in Ireland in the period 2018-2023, examining how aspects of governance impacted the decentralisation reform process, from policy design through to implementation.

Methods: The research applied a qualitative, multi-method approach involving analysis of official documents relevant to the regional decentralisation process, and 12 semi-structured interviews with key informants from across the health sector. The research applies the TAPIC framework for health governance as its analytic framework and the data is analysed using thematic analysis.

Results: Deficiencies in accountability arrangements, poor transparency within the system and vis-à-vis external stakeholders, and a lack of clarity of roles and responsibilities for various process and key decisions related to the reform were identified as undermining progress at various stages of Ireland's decentralisation reform process. An underlying distrust between key institutional actors was identified. These findings are grounded in complex social, cultural, and political and institutional developments in Ireland's history. Also of note is the interwovenness of the five TAPIC domains and the importance of engaging with the complexity and relationality intrinsic to health system reform processes to achieve the aim(s) of the reform in question.

Conclusions: Large scale health system reform is a complex process and its governance presents distinct challenges and opportunities for stakeholders. To understand and address these, critical analysis of the historical context surrounding the policy reform and the institutional relationships at its core are needed.

Key messages:

- Governance plays a crucial if overlooked role in health systems reform. Effective governance arrangements are central to the successful design and implementation of reform initiatives.
- Ensuring a strong link between policy design and implementation processes is crucial to the success of health systems reform.

Abstract citation ID: ckae144.890
Alarm fatigue and sleep quality in healthcare workers

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Background: Alarm fatigue, a prevalent issue in medical settings, arises when healthcare professionals are exposed to an overwhelming number of clinical alarms, leading to desensitization and decreased responsiveness. The constant alertness required due to medical device alarms in hospitals can severely disrupt the quality of sleep for medical personnel. This study aims to demonstrate whether there is a relationship between alarm fatigue and sleep quality in medical staff. For the research project, it was decided to carry out the study in three European neighbouring countries: Poland, Slovakia and the Czech Republic

Methods: The the survey was carried out in three European countries: Poland, Slovakia, and the Czechia from June to July 2023. The study was attended by a total of 756 participants. The study used: a socio-demographic metric; Alarm Fatigue Assessment Questionnaire and The Pittsburgh Sleep Quality Index to evaluates sleep quality.

Results: Among the 756 survey participants, 603 (79.76%) had poor sleep quality (6-21 PSQI points), 147 (19.44%) had good sleep quality (0-5 PSQI points), and 6 (0.79%) did not answer. The analysis of sleep quality scores for participating countries shows that sleep problems were significantly higher in Slovakia and Poland than in the Czech Republic. Alarm fatigue levels were determined for respondents in every country in this study. The statistical difference between countries is significant. In Slovakia and Poland, the levels of alarm fatigue caused by medical devices were significantly higher than in the Czech Republic. With regards to sleep quality, there is a positive correlation between alarm fatigue and sleep problems. A statistically significant positive correlation was obtained for all three countries.

Conclusions: The study found that workers in the health system are exposed to alarm fatigue, and that this in turn can reduce sleep quality. The consequences of this may be reflected in patient safety.

Key messages:

- The results of the study clearly indicate that quality of work should be ensured by developing protocols for managing medical device alarms.
- Combatting alarm fatigue among medical personnel is vital for public health as it reduces medical errors caused by sleep deprivation.

Abstract citation ID: ckae144.891

Public trust in national electronic health record systems: A scoping review of qualitative studies

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Background: Having public trust in national electronic health record systems (EHRs) is essential for the successful implementation of electronic health records within a country's healthcare system. Without trust, people are less likely to consent to sharing their health data through an EHR and government stakeholders will have difficulties promoting uptake and facilitation of EHRs. Research investigating public trust in EHRs is limited, however. In response, we conducted a scoping review in order to gain clarity on the influences and themes behind public trust in EHRs, which can support the implementation of EHRs.

Methods: We reviewed 27 qualitative studies focusing on public trust in EHRs. Studies were identified between January 2022 and June 2022 and were ascertained using an inclusive search method and guided by the PRISMA-ScR checklist. In an iterative process, conceptual themes were derived, and detail the promoters and outcomes of public trust in EHRs.

Results: Three major themes that describe the promoters of public trust in EHRs and two major themes that detail the outcomes once public trust in EHRs exists were ascertained from the literature. Additional findings bring forth the consequential role of healthcare actors in the public trust building process.

Conclusions: Results show comprehension, autonomy, and data protection are key concepts that help build and consolidate public trust in EHRs, while the public and the healthcare system benefit from public trust in EHRs. Furthermore, health system actors can be supportive or detrimental to the implementation of EHRs. Their effect is dependent on their activities within the health care system and how the public perceives those activities. Based on: Papadopoulos K, von Wyl V, Gille F. What is public trust in national electronic health record systems? A scoping review of qualitative research studies from 1995 to 2021. DIGITAL HEALTH. 2024;10. doi:10.1177/20552076241228024

Key messages:

- This research clarifies the conceptualizations that make up the trust relationship between the public and EHRs.
- The findings can assist researchers, policymakers, and other health system actors in attaining a better understanding of the intricacies of public trust in EHRs.

2.S. Poster walk: Food, nutrition and diet

Abstract citation ID: ckae144.892

Levels of adherence to the Planetary Health Diet of current diets in Italian adults

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Despite the efforts in the direction towards the identification of healthy and sustainable diets, little is known about the environmental impact associated with current diets. The aim of this study was to validate the application of the Planetary Health Diet Index (PHDI) to dietary habits currently adopted in a sample of adults living in southern Italy and background variables associated. Dietary intake from nearly 2000 individuals was assessed through a validated 110-item food frequency questionnaire. The PHDI was applied by considering the energy contribution of 16 different components with a gradual scoring system. For the estimation of the environmental impact, carbon and water footprint data for food commodities were extracted from the SU-EATABLE LIFE database and matched with the FFQ items. An energy-adjusted linear association between the PHDI scores and the majority of food groups included in the analysis was found; when considering the level of food processing, ultra-processed food consumption was inversely associated with PHDI scores. Among nutrients, PHDI scores were directly associated with fiber, antioxidant vitamins, potassium, plant-derived omega-3 poly-unsaturated fats, and inversely with sodium, total, saturated, mono- and poly-unsaturated fats, cholesterol, and protein. A significant difference in carbon and water footprint was observed across quartiles of PHDI scores as well as a linear direct association. After adjustment for potential confounding factors, 1-point increase in the PHDI score was associated with lower likelihood of being overweight or obese (OR = 0.99, 95% CI: 0.98-0.99). A linear inverse association between PHDI scores and waist and hip circumferences and, partially, with BMI but not with body weight was found. In conclusion, the PHDI seems to properly identify an environmentally friendly diet with a good nutritional quality.

Key messages:

- An environmental-friendly dietary pattern resulted also having a good nutritional profile.
- Adherence to the Planetary Health Diet is associated with parameters of central obesity.

Abstract citation ID: ckae144.893
Establishing a healthy and sustainable diet in diabetes management: a social marketing approach

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Background: In recent years, there has been evidence that diets based on plant-based products have positive results in the management of type 2 diabetes (T2D). However, their adoption remains low.

Objectives: To evaluate and understand food consumption of people with T2D; and to define priority groups for intervention using a social marketing approach.

Methodology: An online questionnaire was developed and applied to 832 adults with T2D living in Portugal and France. The questionnaire included the collection of socio-demographic data, health data, as well as data on food consumption, eating habits, awareness and attitudes towards the consumption of plant-based foods. Finally, hands-on food workshops were organized to convey practical knowledge on plant-based food cooking.

Results: Regarding eating habits, 11% of participants have already excluded or would like to exclude meat products, and 37% would like to consume them in smaller quantities. 35% of the participants intend to increase the intake of plant-based products. The most well-known diets among the participants were the Mediterranean diet (80%) and Low Carb diet (51%). Regarding the Planetary diet, 86% of the participants expressed low or no knowledge. Regarding the consumption of plant-based foods, 61% of participants view them as a desirable and suitable option for people with diabetes. Furthermore, the planetary diet is among the least often recommended by healthcare professionals (1%). The clustering of participants originated five main groups, with two being highlighted as particularly relevant for intervention, namely through knowledge or practical support.

Conclusions: Overall, participants with T2D seem to have a positive attitude towards increasing the consumption of plant-based products and decreasing the consumption of meat products. Social marketing profiling identified specific clusters which constitute priority target groups for support in shifting to healthier and sustainable diets.

Key messages:

- Social marketing profiling identified specific clusters which constitute priority target groups to support the shift towards plant-based/planetary diets.
- Hands-on food workshops were shown to be effective in conveying practical knowledge and motivation about plant-based diets.

Abstract citation ID: ckae144.894
Predicting Obesity via Deep Learning: The Role of Chrononutrition

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Background: Obesity is a significant public health challenge, prompting the need for assessing effective tools for its monitoring and prevention. Chrononutrition investigates the role of timing, regularity and frequency of food intake on body metabolism and health. Here we aim to check if data on the distribution of calorie intake in the day may improve BMI prediction as compared to using only data on total day intake.

Methods: We apply deep learning on chrononutritional data on calorie intake over 6 daily timeslots from a nationally representative cross-sectional survey sample of the Italian population (INRAN-SCAI 2005/2006) comprising 2313 Italian adults 18-64 ys old with 3 day diet diaries. In particular, we implemented three deep neural network models, varying network configurations and feature selection. The 1st includes 18 (6 for each day diary) chrononutritional variables and the 3 day total intakes, beside age and sex; the 2nd includes age, sex and the 18 chrononutritional variables only; the 3rd uses age, sex and the 3 day totals only. We applied Early Stopping to limit overfitting. Optimization was conducted using the Adam algorithm, minimizing the mean squared error (RMSE), while mean absolute error (MAE) was the primary performance indicator.

Results: The results highlight that Model 3 outperformed the other models with MAE=2.514 and RMSE=3.476, indicating that for the purpose of predicting obesity, information on the time-of-day distribution of calorie intake is not increasing predictive ability of BMI on top of age, sex and total calorie intake in the day.

Conclusions: Additional use of day-time intake information worsened prediction of BMI via deep learning using this cross sectional Italian survey. However the error made is still sizeable and warrants the inclusion of other variables; our results don’t rule out the role of chrononutrition on metabolic health which may act through other biological mechanisms related to specific nutrients.

Key messages:

- Chrononutrition data don’t improve BMI prediction over total calorie intake data in a cross-setional representative sample of the Italian population.
- Deep learning approach to BMI prediction shows the importance of targeted selection of features in public health nutrition.

Abstract citation ID: ckae144.895
Effectiveness of pictorial-warning intervention to reduce consumption of sugar-sweetened-beverages

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Background & Aims: Limited research have looked at pictorial-health-warnings (PHW) for sugar- sweetened beverages (SSB), despite the potential for behaviour change that pictorial warnings on tobacco products hold. This study aimed to examine how visual warnings impacted parents’ decisions to buy SSB for their children.

Materials and methods: All residents dwelling in the communities and local vendors available were subjected to a ten-week multi-strategy intervention by randomized stepped-wedge controlled trial to support the introduction of PHW labels. Stepped implementation of a two-week PHW intervention was delivered in a randomly selected order at one-week intervals. Follow-up data were collected for all three sectors two weeks following the completion of the PHW intervention in the third sector. The trial outcome was determined by comparing the overall perception change towards SSB among parents between the baseline and follow-up periods for three sectors combined. Secondary outcomes included reactions to the trial labels, attitudes toward SSB, and intentions to serve their child SSB.

Results: PHW led to a 30 % (-37.12%, -22.37%) reduction in purchases of SSB, along with lower intentions to serve SSB to children, higher thoughtfulness about the harms of SSB, more perceived control of healthy eating decisions, stronger negative emotional reactions, lower perceived healthfulness of SSB for their child, and greater injunctive norms to limit SSB for their child (all $p < 0.05$). No differences by sector or within sector were found between pre and post-intervention in the appeal of SSB or perceived tastiness of SSB (all $p > 0.05$). Nearly 53% of participants reported being more in control of making healthy eating decisions.

Conclusions: Warnings on SSB are a promising policy approach to reduce sugary drink purchasing. This evidence will support the health service adoption of implementation strategies to support PHW labels across the entire country.

Key messages:

- Warnings on SSB are a promising policy approach to reduce sugary drink purchasing.
- Support the health service adoption of implementation strategies to support PHW labels across the entire country.

Abstract citation ID: ckae144.896
Association between bisphenol A exposure and cardiometabolic outcomes: a longitudinal approach

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Background: Increased cardiometabolic risk is associated with abnormalities in blood biomarkers profile and adiposity measurements. Some substances found in the food matrix or the environment, called endocrine-disrupting chemicals, may impair cardiometabolic health in the yearly and later stages of life. Bisphenol A (BPA) is a food contaminant that migrates from food contact materials and may act as an endocrine disruptor, negatively affecting human health. The present work aims to assess the longitudinal association between BPA exposure and cardiometabolic outcomes.

Methods: Data from the four waves of the Portuguese population-based birth cohort Generation XXI were used ($n = 3138$). Dietary data were collected by 3-d food diaries, using the FoodEx2 classification system to describe the reported foods. BPA daily exposure was estimated using a random forest model, combining dietary information with urinary BPA measured in 24-h urine from a subsample, used to predict the remaining sample's BPA exposure. The generalised least squares model was used to test the associations between BPA and cardiometabolic outcomes.

Results: Blood insulin and HOMA-IR presented a significant longitudinal association with BPA daily exposure after adjustment for important variables and energy (0.06 SD(0.03, 0.09); 0.05 SD(0.02, 0.08) respectively). The same findings were observed for fat mass and waist circumference (0.03 SD(0.01, 0.06); 0.06 SD(0.04, 0.08), respectively). For z-BMI, a significant cross-sectional and longitudinal association was found (0.03 SD(0.01, 0.04); 0.02 SD(0.00, 0.04), respectively).

Conclusions: This was the first study assessing the association between BPA exposure and health outcomes from childhood to adolescence. We found an association between BPA exposure and an increased blood insulin level, insulin resistance, fat mass percentage, waist circumference and z-score of body mass index. Our results point to the need to reduce exposure to BPA in the early stages of life.

Key messages:

- BPA exposure was estimated using direct and indirect methods.
- BPA can impair cardiometabolic outcomes from the early stages of life, such as higher blood insulin level, insulin resistance, fat mass, waist circumference, and body mass index.

Abstract citation ID: ckae144.897
Dietary inflammatory potential: a comprehensive approach to the inclusion of flavonoids

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The Dietary Inflammatory Index (DII) has been widely used to estimate dietary inflammation. However, most studies do not consider the six classes of flavonoids (6F) included in the original DII. This study aimed to develop two new tools, the Complete-DIP (CDIP) and Short-DIP (SDIP), to estimate the Energy-adjusted Dietary Inflammatory Potential (DIP) in adults while exploring the benefit of including the 6F. An open-access reference population (RP) was created from the Global Dietary Database (GDD) to calculate DIP. CDIP considered 38 food parameters (FP), whereas SDIP excluded the 6F and considered 32 FP. CDIP and SDIP were estimated for 3501 participants aged 18-84 from the IAN-AF. FP intake z-scores were calculated using FPs from the RP. Centred percentiles were multiplied by the FP's inflammatory effects (IE) to obtain FP-specific DIP, which were then summed to achieve the individual DIP. IE were retrieved from the literature. Lower DIP values indicated more anti-inflammatory diets. Linear regressions assessed the association between sociodemographic factors and diet quality (measured with the Healthy Eating Index (HEI)) with DIP. Pearson's test evaluated the correlation between CDIP and SDIP. The mean and standard deviation for CDIP and SDIP were 0.00±2.17 and 0.02±1.74, respectively. Men had more pro-inflammatory diets than women using CDIP ($\beta = 0.354$[95%CI:0.209,0.499]), but this effect was not statistically significant when using the SDIP. Older adults had more anti-inflammatory diets than adults (CDIP: β=-0.668 [95%CI:-0.850,-0.486]; SDIP: β=-0.548[95%CI:-0.529,-0.076]). Participants with lower diet quality (Q1 of HEI vs Q4) had higher DIP (CDIP: $\beta = 2.309$[95%CI:2.116,2.502]; SDIP: $\beta = 2.185$ [95%CI:2.037,2.334]). A very strong correlation between the CDIP and the SDIP was observed ($r = 0.94$). Results suggest that CDIP and SDIP may be equally successful in estimating dietary inflammation. However, the advantage of adding the 6F to evaluate the DIP needs further research.

Key messages:

- This study created two open-access energy-adjusted dietary inflammatory potentials (DIP), with and without flavonoids.
- Results suggest that flavonoids may not be essential for accurate DIP estimations.

Abstract citation ID: ckae144.898
Correlates of food insecurity among university students in a low socioeconomic area

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Background: The prevalence of food insecurity (FI) is high and suggested to be growing among university students, with potential detrimental effects on their health status and academic performances. This cross-sectional study aims to identify the socioeconomic, demographic and lifestyle factors associated with FI among university students in a disadvantaged area.

Methods: An anonymous online survey was conducted from Nov 2022 to Jan 2023 among students enrolled at University Sorbonne Paris Nord, located in a low socioeconomic area in France. FI was assessed with one question distinguishing 2 levels of FI: quantitative (i.e. not having enough to eat) and qualitative (i.e. not having the desired food). This abstract focused on quantitative FI. To improve the representativeness of the sample compared to the total student population of the university, sample weights were used according to gender, study level and speciality, whether they were undergoing initial training or not, or obtained their baccalaureate abroad or not. Multivariable multinomial logistic regression models were used to identify factors associated with FI.

Results: A total of 5068 students provided valid answers (20% of the target population), 66% of whom were women, and 12% and 36% reported quantitative and qualitative FI, respectively. Being a man, an undergraduate, having obtained a baccalaureate abroad, not living in the family home, not receiving food from family, having no household food-heating facilities, reporting financial difficulties, relying on food charity and eating alone on a regular basis were positively associated with quantitative FI ($P < 0.0001$). Those reporting quantitative FI were more likely to report academic difficulties.

Conclusions: This study shows a high prevalence of FI in this student population and identifies several associated factors. Identifying students at greater risk of FI is an important first step to design and evaluate public health interventions.

Key messages:
- The different socio-economic backgrounds of university students imply important food insecurity disparities among them.
- University students present several factors associated with food insecurity, which should be considered when addressing food insecurity in this population.

Abstract citation ID: ckae144.899
A Review of Lifestyle Interventions in Weight Loss Programs for Community-Based Psychiatric Patients

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Background: Psychiatric patients face aggravated physical health issues and reduced life expectancy, primarily due to premature cardiovascular diseases. The intricate relationship between lifestyle factors, illness, and psychotropic medications contributes to this phenomenon. The focus of this research is to evaluate weight management interventions for individuals with Severe Mental Disorders through a comprehensive scoping review, focusing on diverse study designs, outcomes, and their clinical implications.

Methods: 20 studies were analyzed to understand the effectiveness of interventions and characteristics, such as duration, delivery, and professional involvement. Assessment criteria included weight modifications, BMI changes, and metabolic measures like blood pressure and lipid profiles.

Results: The total number of participants included in the 20 studies evaluated was 3886. All trials included individuals of all genders. The studies included patients with a weighted mean age of 44.37 ($SD = 4.72$) and a mean BMI of 34.7 kg/m2 ($SD = 3.56$). Varied interventions, mostly conducted in the US, showed promising weight reduction and cardiovascular risk management results among psychiatric patients. However, disparate methods used in the studies hindered the evaluation of outcomes. The studies which yielded more interesting results included Gaughran F. et al, 2017 who showed improvements in HDL cholesterol and metabolic indicators, (HR 0.085; 95% CI:0.007-0.16), and Bartels S. et al, 2015 who reported that 51% of participants achieved clinically significant reduction in overall cardiovascular risk.

Conclusions: Although interventions displayed potential benefits for beneficiaries, the lack of standardized protocols and non-uniform endpoints poses challenges in effectively addressing weight-related concerns in psychiatric patients. Clear guidelines and standardized assessments are necessary to implement psychiatric patients' weight management interventions.

Key messages:
- The health issues and reduced life expectancy of psychiatric patients is a major health burden. The mean BMI of 34.7 kg/m2, indicating a prevalence of Obese individuals needs to be addressed.
- Psychotropic medications are associated with increase in weight. More effort in increasing awareness and including mandatory nutritional educational classes when prescribing these drugs is needed.

Abstract citation ID: ckae144.900
Veggies4myHeart – educational project to promote vegetable knowledge and consumption in preschoolers

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Vegetable consumption among children is below recommended. Given the critical role of vegetable consumption in health promotion, it is essential to identify effective strategies to promote this intake. The Veggies4myHeart project aims to increase vegetable knowledge and consumption in preschool children through nutrition education strategies (NES). Veggies4myHeart is a prospective longitudinal study with children aged 2 to 6 years who attend preschools in the Leiria district. A questionnaire was applied to the parents to characterize the sample. NES were used: children's story, digital game, vegetable-themed sticker booklet and the food wheel. The intervention consisted of 5 food education sessions, each focusing on one selected vegetable (lettuce, carrot, red cabbage, cucumber, and tomato). Sessions to assess knowledge and consumption of vegetables were held pre-and post-intervention. Knowledge was evaluated through a taxonomic categorization questionnaire. Consumption was assessed by recording the number of portions of each vegetable consumed. Wilcoxon test was used to compare pre-and post-intervention vegetable knowledge and consumption. ANOVA test was used to compare NES. Between 2018 and 2024, 649 children (52,5% female, mean age 4,36 ± 0,942) from 17 preschools participated. After the intervention, there was a statistically significant increase in vegetable knowledge ($p < 0{,}001$) and a statistically significant increase in the consumption of vegetables ($p < 0{,}001$). There are statistically significant differences between NES, with the digital game having greater vegetable knowledge ($p < 0{,}001$) and consumption ($p < 0{,}001$) than the others. The Veggies4myHeart project effectively increased vegetable knowledge and consumption in preschoolers. It is essential to continue the intervention to promote consumption and familiarity with vegetables, as well as the involvement of parents and preschool teachers, due to their prominent role as models for acquiring healthy eating habits.

Key messages:

- The NES used proved useful, contributing to increased knowledge and consumption of vegetables.
- The Veggies4myHeart project is an asset for preschool-aged children to become familiar with vegetables.

Abstract citation ID: ckae144.901
Potential reformulation of food products two years after implementation of Nutri-Score in Belgium

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Background: Nutri-score is a front of pack labeling system that provides consumers with simplified information of the nutritional quality of food products. It is based on a five color (green to red) or letter (A to E) scheme that grades the quality of the product using an algorithm that takes into account the energy, sugar, saturated fats, salt, fiber, protein content, and percent of fruits and vegetables. In Belgium, Nutri-score was implemented on a voluntary basis in April 2019. This study aims to explore reformulation of products with Nutri-score by comparing their nutrient content and Nutri-score distribution in 2019 and 2021.

Methods: Product data from one of the major retailers was used in the analysis. Similar products in 2019 and 2021 with matched barcodes were used. Descriptive statistics were computed and statistical analyses such as the signed rank test and the McNemars test were performed to respectively evaluate the changes in the nutrient content and Nutri-score. The tests were conducted at 5% level of significance.

Results: From the matched sample of 668 products, about 55% had a Nutri-score of A and B in both 2019 and 2021. The proportion of food products with Nutri-Score of A/B and of D/E was not significantly different after two years of Nutri-Score implementation. Results showed a significant decrease in the median energy content of dairy, sauces, and meat products and in the median sugar content of dairy and fruit and vegetable products. There was a significant increase in the median fiber content of the dairy, meat products, and non-alcoholic beverages. For all food groups, the salt content of the products in 2019 and 2021 was not significantly different.

Conclusions: This two-year interval analysis described the changes in the classification and reformulation of the products with Nutri-score. Favorable changes in the nutrient quality of the product profiles reveals improvement in their reformulation.

Key messages:

- In this analysis, changes has been observed in the nutrient content of food products between 2019 and 2021.
- Producers or manufacturers should continue working on commitments to enhance the nutritional quality of the products delivered to consumers.

Abstract citation ID: ckae144.902
Impact of the COVID-19 pandemic on lifestyle's behaviours of school-aged children in Portugal

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Background: COVID-19 pandemic impacted children's daily routines. Based on this, WHO Collaborating Centre for Nutrition and Childhood Obesity in collaboration with WHO Regional Office for Europe coordinated the study about the impact of COVID-19 on lifestyle's behaviours of school-age children in Europe, where 17 Member States participated, including Portugal.

Methods: Cross-sectional study was conducted within the sixth round of COSI Portugal, following a WHO common methodological protocol, during 2021-2022 school year. A national representative sample of families with children 6-8 years old were included and asked to report on variables comparing two periods: pre and during the COVID-19 pandemic.

Results: 5139 families participated. 11.4% reported a worsening of their perceived wealth and the percentage of fathers and mothers working full- or part-time decreased (74.6% to 68.7% and 70.6% to 59.6%, respectively) during pandemic. Children's consumption of sweets (19.4%), savoury snacks (13.8%), fruit (11.9%) and vegetables (7.1%) increased, and sugary soft drinks (13.8%) decreased during pandemic. Family behaviours with the highest increases during pandemic were "eating together as a family" (35.4%), "cooking meals together with your child" (33.6%), "buying food in large quantities" (33.6%) and "eating home-cooked meals" (29.1%). Approximately, one in four parents reported children's physical activity decreased and almost one in two reported an increase in recreational screen time. Parents who perceived their child as overweight during pandemic doubled (f7.9% to 14.6%). Children's well-being behaviours that worsened more during pandemic were "having fun with friends" (44.3%), "got on well at school" (27.9%), "feel full of energy" (23.8%) and "feel fit and well" (22.2%).

Conclusions: These observations underscore the need to "build back better" post-pandemic with a focus on preventing and controlling childhood obesity and its determinants.

Key messages:

- Portuguese children experienced negative impacts of the pandemic in their lifestyle behaviours, particularly on their physical health and well-being, with a report of a poorer socioeconomic situation.
- This study and its findings give us a first-of-its-kind view into the physical and mental outcomes of the pandemic on school-aged children with a focus on the long-term, high-risk disease of obesity

3.R. Poster walk: Health and Environment: Urban and Planetary Challenges

Abstract citation ID: ckae144.903
Socio-economic gradients in urban green space access and respiratory health

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Background: This study investigates social disparities as one of the drivers influencing the access to green spaces and exposure to natural environments, potentially exacerbating disparities in respiratory health in children.

Methods: Longitudinal ELSPAC birth cohort study data included 4384 complete case participants born in cities of Brno and Znojmo, examined throughout the years 1990-2010. Estimates on socio-economic status (SES) scores of children's parents and their education were used as socio-economical predictors. Tree cover density (TCD) calculated as mean canopy closure percentage in the individual walking distance neighbourhoods and the ownership and accessibility of a garden were used as indicators of green space accessibility. Multiple logistic regression models were employed to estimate odds ratios for predictors of respiratory health outcomes, controlling for several confounders.

Results: Parents' SES was found to be positively associated with neighbourhood TCD, and this effect was even more pronounced for garden owners. Higher tree cover was then significantly negatively associated with development of acute bronchitis (OR 0.88, CI 95 % 0.84-0.94 for 1 SD of tree cover), while not having a garden (OR 1.81, CI 95 % 1.42-2.33) and living in area with lower tree cover (OR continuously decreasing from 1.88 to 1.68 for lowest and highest quartile respectively) was significantly associated with progression of acute bronchitis into chronic bronchitis in a fully adjusted model. Vice versa, higher tree cover was statistically significantly positively associated with development of allergic rhinitis (OR 1.09, CI 95 % 1.03-1.15), suggesting viability of the novel method of estimation of individual neighbourhood greenness.

Conclusions: The results suggest protective effect of access to urban green spaces against adverse respiratory outcomes in children. The socially uneven distribution of access emphasizes the importance of urban policies in promoting urban health. #NGEU

Key messages:

- There is a significant protective effect of access to green spaces against respiratory diseases and their progression.
- There's an unequal, but varied distribution of access to green spaces, and social gradient in health, highlighting the importance of urban green space distributive politics.

Abstract citation ID: ckae144.904
Thermal inequality and heat-related adaptive capacity: A systematic review

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Background: Extreme heat is an important public health concern. Heat stress exposure and related adaptive capacity are not equally distributed across social groups, generating thermal inequality. We implemented a systematic review to answer the question: In the general population, what is the effect of social disadvantage on exposure to subjective and objective heat stress and adaptive capacity to prevent/reduce exposure to heat stress?

Methods: We searched for peer-reviewed journal articles published between 2005 and 2024. Screening and data extraction were conducted by one reviewer, with a second screening and extracting 10% for comparison. Synthesis included identification and description of specific social groups unequally exposed to heat stress and with lower adaptive capacity as well as a narrative description of the evidence and identification of research gaps.

Results: We identified 114 relevant publications. 53% included evidence on objective heat stress, 19% subjective heat stress, and 58% adaptive capacity. Nearly half came from North America (47%), 24% from Asia, and 17% from Europe. Publishing increased over time, from 0 articles in 2005 to 20 articles in 2023. Most studies considered socioeconomic status (SES) (87%), while fewer focused on race/ethnicity or other social factors. Across global regions, lower-SES populations, immigrants, and racial/ethnic minorities are generally more exposed to heat stress and have lower adaptive capacity, and lower-SES and minority neighborhoods are generally hotter and less green. Most studies of objective heat stress use imprecise measures, such as land surface temperature, which are not representative of experienced temperatures.

Conclusions: This review summarizes the available evidence on inequalities in heat stress exposure and adaptive capacity for the first time and identifies important research gaps related to heat stress measurement and social factors beyond SES.

Key messages:

- Heat stress exposure and related adaptive capacity are not equally distributed across social groups, generating thermal inequality.
- Social inequalities must be considered during climate change adaptation planning.

Abstract citation ID: ckae144.905
The association between traffic noise and self-rated health within the German National Cohort (NAKO)

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Objectives: Traffic noise can cause stress and disturb sleep, impacting health in many ways. However, few large studies on this topic exist. We investigated the association between traffic noise and self-rated health (SRH) within the German National Cohort (NAKO).

Methods: NAKO enrolled >200,000 adults ages 20-74 at 18 sites in Germany. We used logistic regression to test whether 1) annual mean 24-hour ambient traffic noise levels at or above 55 dB(A) within a 10-meter residential buffer and 2) subjectively reported nighttime traffic noise annoyance were associated with higher odds of reporting fair/poor SRH. We calculated these associations within the full sample, stratified by sex, and stratified by age group

(≤39 years, 40-59 years, ≥60 years). We adjusted for study site, age, sex, marital status, education level, and migration background.

Results: Among participants without missing data (n = 121,232), moderate annoyance was associated with 1.27 higher odds (95% CI 1.21-1.32) and strong annoyance with 1.75 higher odds (95% CI 1.65-1.84) of fair/poor SRH, while annual mean noise ≥55 dB (A) was associated with 1.07 higher odds (95% CI 1.03-1.12). Females who reported strong annoyance had especially high odds of fair/poor SRH (OR 1.81, 95% CI 1.69-1.95), as did those aged 40-59 years who reported high annoyance (OR 1.78, 95% CI 1.66-1.92). Those 39 and under had no significant increase in odds of fair/poor SRH if they reported moderate annoyance or if they were exposed to ≥ 55 dB(A) annual mean noise. In single exposure models, noise annoyance and objectively measured noise were both significantly associated with higher odds of reporting fair/poor SRH, but in combined models, the effect of objectively measured noise became insignificant while the effect of annoyance remained strongly significant.

Conclusions: These findings confirm that traffic noise is an important public health issue. Further analyses on most affected populations should inform noise protection policies.

Key messages:

- Higher levels of traffic noise are associated with worse self-rated health.
- Ambient noise is an important public health issue for which more research is needed.

Abstract citation ID: ckae144.906

Heat-related risk in outdoor workers in the context of climate change: a systematic review

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Background: Climate change is one of the paramount challenges in the current global health setting. From an occupational health perspective, outdoor workers are amongst the most vulnerable populations to climate change and heat-related risk. A systematic review was performed, aiming to assess heat-related health outcomes in outdoor workers.

Methods: The research query was structured using the Population, Intervention, Comparison and Outcome (PICO) model, and including synonyms and Medical Subject Headings (MeSH) terms for the following keywords: "outdoor workers", "climate change", and "occupational risk". The systematic review was performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements, screening three databases (PubMed, Web of Science, and Scopus).

Results: After duplicate removal and title and abstract screening, the final screening by full-text resulted in 10 included studies. The included studies were performed mostly on construction (included in 5 studies, 50.0%) and agriculture (in 5 studies, 50.0%) workers. Eight studies (80.0%) had a majority of male workers, while one (10.0%) had a majority of female workers, and one study (10.0%) did not report on the gender ratio. Four of the included studies (40.0%) reported a high prevalence of heat-related symptoms, ranging from 64.0% to 90.3% of workers. Three studies (30.0%) showcased a prevalence of heat-related symptoms in less than 50% of workers (ranging from 11.6% to 47.5%). Three studies (30.0%) evaluated odds ratio, highlighting an increased odds ratio of heat-related symptoms in outdoor workers.

Conclusions: This systematic review highlights heat-related stress in outdoor workers as an important occupational risk. Mitigation and prevention strategies should be developed and implemented at a company, national, and supra-national level, to ensure the safety and wellbeing of outdoor workers worldwide.

Key messages:

- A systematic review was performed to assess risks related to climate change in outdoor workers. Heat-related symptoms were reported with a high prevalence, ranging from 64.0% to 90.3% of workers.
- Mitigation and prevention strategies should be developed and implemented at a company, national, and supra-national level, to ensure the safety and wellbeing of outdoor workers worldwide.

Abstract citation ID: ckae144.907

Accounting for adaptation when projecting climate change impacts on health: a review of methods

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Exposure to high and low temperatures can cause harm to health. Temperature related health effects are likely to increase in the future, due to global warming, unless populations can adapt to a warming environment. Adaptation occurs through multiple mechanisms, however, the amount that populations may adapt to rising temperatures is unclear. There are currently a variety of methods used to include adaptation in projections, but it is unclear how underlying assumptions are made and whether they are based on evidence. With increasing interest from decisionmakers around implementation of adaptation strategies, an important step in responding to climate change will be to understand how adaptation can statistically be incorporated when estimating future health burdens. A systematic scoping review was conducted to identify all quantitative methods to include adaptation in studies projecting future temperature-related health impacts under climate change. Approaches employed in studies were coded into methodological categories. Advantages and disadvantages of each method were also explored, along with the empirical basis for model assumptions. Eight methodological categories were identified from the included fifty-nine studies. More recent methods of including adaptation in projections use a combination of approaches or modelling adaptation based on specific adaptation strategies or socioeconomic conditions. The most used approaches in the literature to model adaptation are heat threshold shifts and reductions in the exposure-response slope. Just under 20% of studies were categorised as using an empirical basis for statistical assumptions. Including adaptation in projections considerably reduced the projected temperature-mortality burden in the future. Researchers should ensure that all future impact assessments include adaptation uncertainty in projections and assumptions are based on empirical evidence where possible.

Key messages:

- Including adaptation in future projections considerably affects temperature-related mortality numbers.
- All future impact assessments should include adaptation uncertainty and assumptions should be based on evidence where possible.

Abstract citation ID: ckae144.908
Knowledge, behaviours, practices, and expectations on climate change among French health workers

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Introduction: Hospitals face a dual challenge with climate change (CC): reducing emissions and preparing for its impacts. The main objective of this study was to evaluate the knowledge, behaviours, and practices (KBP) of health workers (HWs) in French hospitals regarding CC and environmental sustainability (ES). The secondary objectives were to understand their expectations and identify associated factors with the KBP of HWs.

Methods: A multicenter cross-sectional KBP study was carried out among HWs of six French hospitals from June 2021 to December 2022. A structured questionnaire was designed and consisted of five parts: i) participant characteristics, ii) CC knowledge and perceptions, iii) behaviours, iv) practices concerning ES actions, and v) expectations. A multilevel logistic regression model assessed associations between HWs' KBP and both individual and hospital characteristics.

Results: Out of 57034 HWs, 4552 (8.0%) participated in the study. Only 15.4% identified the activities with the greatest environmental impact. On a scale of 1 (Not a priority) to 10 (High priority), the average median rating attributed to commitment to ecological transformation in their hospitals was 5.0/10. Among the participants, 1079 (23.7%) had already initiated at least one ES action. To implement ES-related projects, main barriers were reported including lack of dedicated time (40.4%), hierarchical support (32.5%), methodological support (28.9%), and training access (23.7%). The presence of a sustainable development steering committee, especially active for over 5 years, positively correlated with better information for HWs (ORa=1.78 [1.29-2.45]), better knowledge (ORa=1.83 [1.32-2.53]), and more ES actions initiated (ORa=1.74 [1.33-2.29]).

Conclusions: French HWs demonstrate a commitment to making their hospitals more environmentally sustainable. Some drivers and barriers were identified to further support these essential transformations.

Key messages:

- First national study on knowledge, behaviours, practices, and expectations on climate change and environmental sustainability among French health workers.
- Among the drivers to strengthen dynamics within hospitals, the need for training among French health workers and institutional support has been identified.

Abstract citation ID: ckae144.909
A systematic review of health outcomes of public transport use by older adults

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Background and Aim: Public transport use has been linked to several health benefits in the general population, and is crucial for older adults' mobility, due to an age-related decline in mobility, and particularly the ability to use other transport modes. The objective of this systematic review is to determine what is known about the physical and mental health outcomes of public transport use by older adults and to identify remaining gaps in the literature.

Methods: Five electronic databases were searched in April 2023, with an update in January 2024: Pubmed, Scopus, Web of Science, Ageline and Transport Research International Documentation (TRID). Included were studies that were in English, contained a measure of public transport use as exposure, and any health outcome, including mental or physical health, physical or cognitive function, morbidity, or mortality, among people aged $\geq$ 60 years.

Results: Of a total of 2247 unique records that were screened, the full text of 20 was assessed for eligibility and 11 were identified as eligible. Citation search identified two additional studies, amounting to a total of 13 included studies. Significant health outcomes described in assessed studies were decreased obesity and depressive symptoms, and to a lesser extent increased gait speed and cognitive function.

Conclusions: Initial evidence suggests a positive impact of public transport use on obesity, depressive symptoms, gait and cognitive function, although available research was limited in context and methodology. Further research should focus on determining causality between public transport use and health, and be conducted in more diverse contexts. Transport and urban planners, as well as policymakers, should consider the implications of public transport on the health and independence of older adults.

Key messages:

- Public transport use is linked to reduced obesity and depression among older adults. Links with other health outcomes were reported in several studies, but evidence is scarce.
- Current research is limited in terms of quantity, scope, and design. Future research should be conducted in wider contexts, encompass a broader range of health outcomes, and address reverse causality.

Abstract citation ID: ckae144.910
Outdoor living environment and cardiovascular disease risk: results from a Swedish cohort

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Cardiovascular disease (CVD) is the leading cause of mortality and morbidity worldwide. While sociodemographic, dietary and lifestyle factors have been well documented in relation to CVD, environmental factors have been less studied. However, considering the ongoing biodiversity, climate, and health crises, it is imperative to better understand the interplay between the environment and health. This study aimed to examine the associations between green qualities of the residential environment and CVD. The Malmö Diet and Cancer study is a prospective cohort initiated in the 1990s in the city of Malmö (southern Sweden). At baseline, participants were invited to a health screening, including extensive questionnaires about socioeconomic conditions, lifestyle and diet, clinical examination and blood sampling. The residential coordinates of the participants at baseline were linked to the Scania Outdoor Environment Database comprising scores for a range of perceived qualities of the neighbourhood outdoor environment. Three greenness-related dimensions (serene, natural, diverse) were selected for this substudy. Information on incidence of CVD until 2019 was retrieved from Swedish registers. Adjusted Cox proportional hazards models were used to estimate associations between green-related qualities and cardiovascular diseases (major adverse coronary events). Approximately 27000 participants were included, of which 60% were women. The average age at baseline was 58 years old (±8). Mean follow-up was 20 years (±7) and 4318 cases of major adverse coronary events were identified. Preliminary results suggest that several sociodemographic and lifestyle factors, as well as some aspects of neighbourhood greenness, were associated to increased cardiovascular incidence. Neighbourhood greenness might play a role in major adverse coronary events incidence. Further investigation on underlying mechanisms is required.

Key messages:

- Identifying environmental risk factors for cardiovascular disease is of importance for public health.
- Neighbourhood greenness might play a role in cardiovascular disease incidence, and underlying mechanisms need to be investigated further.

Abstract citation ID: ckae144.911
Effect of sustainable food habits on gut microbiota diversity: A pilot study

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Background: To reach climate goals, sustainable food habits are needed and a plant-based diet is more climate-friendly. However, analyses of food products show that the highest levels of pesticide residues have been found in vegetables, fruits and cereal. Further, pesticide residues have been seen to decrease microbiota diversity. Since microbiota diversity is linked to human health, understanding these dynamics is crucial. This study aimed to evaluate the effect of sustainable food habits on gut microbiota diversity.

Methods: An 8-week intervention study on sustainable food habits with participants randomized into three groups and assigned to different diets; climate friendly ($n = 8$), organic ($n = 9$) and control group ($n = 9$). Data was collected at baseline, at 4 weeks, and at 8 weeks and included a comprehensive meal questionnaire (Meal-Q), urine samples for pesticide analysis, and fecal samples for gut microbiota diversity. As intervention the groups attended four educational sessions about their specific diet. Linear mixed-effects models were used for data analyses.

Results: There was no indication of adverse effects of a climate friendly diet ($p = 0.79$) or an organic diet ($p = 0.32$) on gut microbiota diversity compared to the control group. Pesticide residues that showed negative effects on gut microbiota diversity were mepiquat ($p < 0.05$) and chlormequat ($p < 0.05$). The single food items that had adverse effects on gut microbiota diversity was Lemonade ($p < 0.05$), Juice ($p < 0.05$), and Brie cheese ($p < 0.05$).

Conclusions: Despite its small sample size, this study provides valuable insights, supported by an 8-week longitudinal design and comprehensive monitoring of dietary habits. Notably, both climate-friendly and organic diets showed trends toward increased gut microbiota diversity over time. These findings need to be confirmed in future studies with longer durations and larger sample size.

Key messages:

- A climate-friendly diet not only benefits planetary health but also holds potential for individual health improvements.
- Increased intake of plant-based items did not reduce gut microbiota diversity.

Abstract citation ID: ckae144.912
Isolation of Shewanella algae from blue crabs (Callinectes sapidus) in Northwestern Adriatic Sea

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Blue crab (Callinectes sapidus) is one of the last reported invasive species that have colonized the Italian coasts, in particular the lagoons of the northern Adriatic Sea. Their massive presence is compromising shellfish farming, causing a serious economic crisis among the valley populations. To limit the economic damage, blue crabs have been introduced as human food in the Italian markets. This study aimed to evaluate the microbiological contamination of blue crab as potential risk to human health. From July 2023 to April 2024, 72 blue crabs were collected in coastal lagoons and 5-6 nm from the coast of the Emilia Romagna Region. Microbiological analysis revealed Shewanella algae as one of the most commonly identified microorganisms (18/72, 25%). Shewanella was isolated on Chromagar Vibrio^{TM} and TCBS after an enrichment step in Alkaline Saline Peptone Water. Colony morphology, Gram stain, and biochemical tests (oxidase, catalase) sustained Shewanella identification, later confirmed by MALDI-TOF MS (MALDI Biotyper$^{®}$ Sirius, Bruker Daltonics). S. algae is a Gram-negative, rod-shaped, aerobic microorganism widely distributed in seawater, freshwater, and soil. In humans, it is considered an opportunistic pathogen, especially in people with impaired immune systems. Shewanellosis has been strongly associated with seawater exposure and typically arises in hot months. Clinical manifestations include skin and soft tissue infections, otitis media, keratitis, biliary tract infections, vertebral discitis, and bloodstream infections. Notably, in the last years, S. algae infections have increased globally, even in healthy young people. The present study suggests blue crabs as a potential source of S. algae throughout the year. The increasing identification of S. algae in marine waters worldwide, as well as in marine-derived foods like blue crabs, underscores the growing importance of S. algae as an emerging pathogen and its impact on public health.

Key messages:

- Shewanella algae is an opportunistic pathogen, increasingly isolated in marine water and seafood.
- Blue crab is an invasive species that has recently conolonised the Italian coasts.

Abstract citation ID: ckae144.913
Scanning the horizon- environmental health indicator surveillance

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Aim: This work aimed to conduct a comprehensive literature review with narrative synthesis of evidence in relation to the surveillance of environmental health indicators by Public Health agencies internationally. This will strengthen the All-Hazards approach to Health Protection in Ireland.

Methods: The project proposal was registered on PROSPERO. Preferred Reporting Systems for Systematic Review and Meta-Analysis (PRISMA) guidelines were followed. A systematic search was conducted across five databases. In addition, relevant websites, reference lists and the grey literature were searched. Data were extracted following TIDieR-PHP guidelines. Risk of bias was considered and quality appraisal was performed using SANRA and AGREE-HS tools. A narrative synthesis of the evidence was completed.

Results: 12 papers were included in the final review. Four were narrative review articles describing European and worldwide initiatives and the remaining eight described a single health system. Only three papers were deemed high quality. The number of indicators monitored varied widely from one in Italy to over 400 in the USA. The most established programmes described the use of a framework such as Drivers-Pressures-States-Exposures-Effects-Actions (DPSEEA) and indicator selection criteria were applied. The papers described a variety of public health actions arising from the surveillance of environmental health indicators. The knowledge provided by this review can inform the implementation process. Establishment of a project team, and beginning with monitoring one domain is suggested. Air quality is the most frequently monitored domain internationally. The DPSEEA framework is recommended, and Briggs' indicator selection criteria should be applied to any indicator under consideration. The system should measure both hazard and outcome measures. Finally, meaningful public health action should result from the monitoring.

Key messages:
- Environmental health indicator surveillance is essential to all-hazards health protection.
- Few public health agencies internationally are systematically monitoring environmental health outcomes.

Abstract citation ID: ckae144.914
Taxing animal-based food products: A qualitative framing analysis of the media debate in Germany

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Background: In most high-income countries, consumption of animal-based food products exceeds levels recommended for health and environmental reasons. Although taxes can reduce the consumption of animal-based products, they are politically controversial. In recent years, various tax models and motivations for these have been discussed. Our study seeks to identify key arguments and policy actors in the German media debate on the taxation of animal-based products, shedding light on emerging narrative frames surrounding tax models and motivations.

Methods: We conducted a qualitative analysis of German media coverage on taxes and levies influencing the price of animal-based foods. We analyzed 488 articles from 10 national newspapers and eight trade press journals published between February 2019 and July 2023. Employing an inductive approach, we identified the actors involved in the debate and common frames and arguments around various tax proposals.

Results: We found broad consensus on a need for change due to inadequate animal welfare conditions, while environmental and health arguments are more contested. Significant debate surrounds the suitability of taxation as the preferred policy instrument. Furthermore, doubts are raised about a tax's effectiveness and appropriate revenue allocation. Framing of the tax often emphasizes potential negative impacts on domestic production and product affordability. Additionally, concerns about various unintended consequences and the overall unpopularity of taxation emerge as prominent themes.

Conclusions: The taxation of animal-based products for health and environmental reasons is still highly contested in the media debate in Germany. Many, but not all arguments commonly raised against such taxes may be considered spurious from an evidence-based public health perspective. Proponents of such taxes may seek to address existing concerns through appropriate policy design and communication strategies.

Key messages:
- Taxation of animal-based foods may help to align consumption with levels recommended for health and environmental reasons, but adoption and implementation is hindered by political controversy.
- Objections common in the public debate on such taxes could be addressed with appropriate policy design alleviating justified concerns, and with communication strategies countering spurious arguments.

Abstract citation ID: ckae144.915
Air Pollution Reduces the Individuals' Life Satisfaction Through Health Impairment

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Background: The impact of air pollution on individuals' happiness and life satisfaction (LS), and its relationship to other factors became the focus of recent research. Though, the underlying mechanism of how air pollution impacts LS remains unclear. In this study, we examined the direct and indirect effect of air pollution on individuals' LS through health mediation.

Methods: We used longitudinal individual-level data from "Understanding-Society: the UK Household-Longitudinal Study" on 59,492 individuals with 347,377 repeated responses across 11 years (2009-2019) that was linked to yearly concentrations of NO2, SO2, and particulate-matter (PM10, PM2.5) pollution. Generalized structural equation models with multilevel ordered-logistic regression were used to examine the direct effect of air pollution on LS and the indirect effect from health impairment.

Results: Higher concentrations of NO2 (coefficient = 0.009, 95%CI = 0.007,0.012, $p < 0.001$), SO2 (coefficient = 0.025, 95%CI = 0.017,0.034, $p < 0.001$), PM10 (coefficient = 0.019, 95%CI = 0.013, 0.025, $p < 0.001$), and PM2.5 (coefficient = 0.025, 95%CI = 0.017,0.033, $p < 0.001$) pollutants were associated with poorer health, while poorer health was associated with reduced LS (coefficient = -0.605, 95%CI = -0.614,-0.595, $p < 0.001$). Mediation path analysis showed that air pollution impacted individuals' LS directly and indirectly. The percent of total effect mediated through health was 44.03% for NO2, 73.95% for SO2, 49.88% for PM10, and 45.42% for PM2.5 and the ratio of indirect to direct effect was 0.79 for NO2, 2.84 for SO2, 0.99 for PM10, and 0.83 for PM2.5.

Conclusions: Health plays a major mediating role in the relationship between air pollution and LS. To alleviate the impact of air pollution on LS, future strategies should focus on health promotion besides reducing air pollution emissions.

Key messages:

- Air pollution is related to lower life satisfaction directly and indirectly through health impairment.
- Strategies and policies aiming at reducing air pollution emissions and better health would improve the individual's life satisfaction and lower the mental health burden.

Abstract citation ID: ckae144.916
A selective diesel vehicle ban's impact on NO2 concentrations in Munich: a quasi-experimental study

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Background: The European Union's current NO2 concentration limit of 40 µg/m^3 is regularly exceeded in Munich, Germany. This limit is likely to be reduced towards the WHO recommended target of 10 µg/m^3. In response, the city enacted a selective ban on older diesel vehicles, specifically those categorized as Euro 4 or older, within the current low-emission zone in February 2023. Our study examined how Munich's selective ban on diesel vehicles impacted NO2 levels, concentrating on the six-month period after its introduction.

Methods: We employed a synthetic control approach in the primary analysis and a controlled interrupted time series approach in the secondary analysis. These quasi-experimental methods establish a 'counterfactual' no-intervention scenario, allowing for comparison with the actual observed scenario and estimation of the impact of the intervention. Historical data from monitoring stations within and outside the low-emission zone from 2014 to 2022 were utilized as controls, while potential confounders were considered.

Results: NO2 concentrations within Munich's low-emission zone decreased across the study period. Effects of the selective diesel vehicle ban at monitoring stations within the low-emission zone were minimal, with wide confidence intervals indicating uncertainty. At Landshuter Allee, the average intervention effect was -2.67 µg/m3 (95%-CI = [-12.72; 7.38]), at Stachus it was -2.74 µg/m3 (95%-CI = [-9.91; 4.42]) and at Lothstrasse, it was -1.03 µg/m3 (95%-CI = [-7.75; 5.69]). The secondary analysis confirms these findings.

Conclusions: Munich's selective diesel vehicle ban had limited effects in reducing NO2 concentrations. Factors such as its narrow focus on Euro 4 diesel vehicles, numerous exemptions, and unclear enforcement may explain this outcome. Comprehensive strategies and continuous monitoring and evaluation are crucial for effectively addressing urban air pollution and protecting public health.

Key messages:

- Munich's selective diesel vehicle ban had minimal effects on reducing NO2 levels, possibly due to its narrow scope, many exemptions, and unclear enforcement.
- Current guidelines and court rulings signal the need for more effective solutions beyond selective bans, emphasizing the importance of well-designed interventions and rigorous evaluation.

3.S. Poster walk: Health promotion

Abstract citation ID: ckae144.917
Sickness absence patterns during the COVID-19 pandemic among Finnish public sector employees

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Background: The patterns of sickness absence (SA), that is, the clustering of differing lengths of episodes and total number of days absent, have not been examined. We examined these SA patterns and factors associated with the patterns during the COVID-19 pandemic.

Methods: We used survey data from employees of four large Finnish cities in 2020 linked with SA data in 2021 retrieved from employer registers (n = 39 791). SA patterns were defined through cluster analysis (K-means) including number of SA days, short (1-9 days), and long (10-365 days) SA episodes within one year. The associations of employee and work characteristics in 2020 with SA clusters in 2021 were analysed with multinomial regression.

Results: Four SA patterns (=clusters) were identified: 1) Optimal SA pattern (n = 31 320, 79%), 2) Recurring short SA episodes (n = 5149, 13%), 3) Recurring long SA episodes (n = 2964, 7%), and 4) Very high levels of SA with long episodes (n = 358, 1%). Compared to optimal SA pattern, female gender, higher body mass index, former smoking, abstinence from alcohol, not being in high occupational socioeconomic position, on-site work during COVID-19, and COVID-19 infection were associated with all suboptimal SA patterns. Recurring short SA episodes were more likely in younger employees (odds ratio=0.98, 95% confidence interval 0.97-0.98), those with a temporary job (1.10, 1.00-1.20), current smokers (1.34, 1.21-1.48), those using passive commute modes (1.03, 1.01-1.05 [car]; 1.02, 1.00-1.04 [public transport]), and those who had experienced a team reorganization due to COVID-19 (1.27, 1.10-1.46). The two most adverse SA patterns were more likely among older employees, and less likely among those cycling to work (0.91, 0.84-0.98; 0.97, 0.95-0.99).

Conclusions: We identified three differential suboptimal SA patterns. Compared to the optimal SA pattern, several individual-level risk factors, but also some COVID-19 related factors were found to associate with suboptimal SA patterns.

Key messages:

- We identified three suboptimal sickness absence patterns during COVID-19 pandemic.

- Individual characteristics, but also COVID-19 related factors were associated with the observed sickness absence patterns.

Abstract citation ID: ckae144.918
A scoping review on sociodemographic inequalities in breast cancer screening attendance in Germany

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Background: Organized breast cancer screening (BCS) programs are effective measures among women aged 50-69 for preventing the fifth cause of death in Germany. However, still participation rates have not yet reached EU standards. It is unclear which and how sociodemographic factors are related to BCS attendance. This scoping review aims to identify sociodemographic inequalities in BCS attendance among 50-69-year-old women following implementing the Organized Screening Program in Germany.

Methods: Following PRISMA guidelines, we searched the Web of Science, Scopus, MEDLINE, PsycINFO, and CINAHL. We included primary studies with a quantitative study design and reviews examining BCS attendance among women aged 50-69 with data from 2005 onwards in Germany. Harvest plots depicting effect size direction for the different identified sociodemographic inequalities were developed.

Results: We screened 476 titles and abstracts and 33 full texts. In total, 27 records were analysed, 14 were national reports, and 13 peer-reviewed articles. Eight sociodemographic variables were identified and summarised in the harvest plots: age, education, income, migration status, type of district, employment status, partnership cohabitation and health insurance. Older women, women with lower incomes and migration backgrounds who live in rural areas and lack private insurance, respond more favourably to BCS invitations. However, from a lifetime perspective, these associations only hold for migration background, are reversed for income and urban residency, and are complemented by partner cohabitation. Finally, women living in the federal states of Lower Saxony, Saxony, Mecklenburg-Western Pomerania, Saxony-Anhalt, and Thuringia showed higher attendance rates in the last two years.

Conclusions: High-quality research is needed to identify women at higher risk of not attending BCS in Germany, particularly as the overall attendance rate still falls below European standards.

Key messages:

- High-quality research is needed to identify women at higher risk of not attending BCS in Germany, particularly as the overall attendance rate still falls below European standards.
- Women without migration background, high income, living in rural areas, and not cohabitating with their partners are at higher risk of never attending BCS in Germany.

Abstract citation ID: ckae144.919
Utilization of paternity and parental leave in Italy: the parents' perspective

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Background: In recent years, there has been a focus on the role of fathers in childcare within public debates and social policies. Maternity, paternity, and parental leaves are essential tools for active father involvement in family life. The study aims to describe the fathers and mothers' perspective about the use of two types of leave (paternity and parental) by fathers.

Methods: As part of the European project 4E (Early, Equal, Engaged, Empathetic) PARENT (CERV-2022-DAPHNE No. 101095956), a cross-sectional study was carried out using an online questionnaire addressed to parents between August and December 2023.

Results: A total of 3,811 mothers and 720 fathers participated. Sixty percent of mothers and 57% of fathers came from the North, with the majority having a high level of education (74% and 58%, respectively). Seventy-three percent of fathers reported using paternity leave, with most cases from the public welfare system (59%). Overall, most of mothers (91%) and fathers (89%) do not consider the current duration of leave adequate nor do they agree with the traditional division of family roles. Additionally, 69% of mothers and 72% of fathers believe that fathers should have more leave, but also that mothers need more months for breastfeeding. The logistic model shows that for fathers: low education level (ORadj 0.34, 95% CI 0.13-0.86), living in the Center (ORadj 0.49, 95% CI 0.28-0.87) and Southern Italy (ORadj 0.32, 95% CI 0.15-0.64), and acceptance of traditional family role division (ORadj 0.30, 95% CI 0.14-0.65) reduce the likelihood of using paternity leave. Similar results were observed in case of mothers' responses. Furthermore, living in Southern Italy reduces the likelihood of using parental leave for both fathers (ORadj 0.24, 95% CI 0.09-0.69) and mothers (ORadj 0.67, 95% CI 0.49-0.92).

Key messages:

- Maternity, paternity, and parental leaves are crucial for facilitating active father participation in family life.
- It is important to implement inclusive policies that ensure equitable access to paternity and parental leave, thereby promoting active father involvement in childcare.

Abstract citation ID: ckae144.920
Co-creation of migrant health interventions in Portugal: Insights from the VO(I)CES project

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Background: International migration is increasing both globally and in Europe, highlighting the need for responsive interventions that cater to the diverse needs and strengths of migrants. Although genuine involvement of stakeholders in the design and implementation of interventions is vital to enhance their relevance, responsiveness, and ownership, co-created migrant health interventions remain limited. This study aims to address this gap by collaboratively developing health literacy interventions with meaningful involvement from migrants and professionals from both the social and health sectors.

Methods: As part of the VO(I)CES project, twelve idea-generation workshops were conducted in Portugal, applying the Ophelia (Optimising Health Literacy and Access) process, engaging over 70 stakeholders (migrants, social and healthcare professionals). To guide discussions, these workshops used case vignettes developed from 16 health literacy profiles that were identified in a previous study among 1,126 migrants. The discussions aimed at eliciting detailed insights into the potential actions that are responsive to migrants' challenges.

Results: Several key interventions were identified by the stakeholders, including the enhancement of cultural and linguistic training for healthcare providers, the use of community health agents/mediators to improve service delivery and community engagement, and the creation and dissemination of multilingual, multi-format health information materials. Specific interventions for groups experiencing increased vulnerabilities such as pregnant women were also proposed, alongside suggestions for creating citizen spaces and improving digital skills among healthcare staff.

Conclusions: The co-creation approach facilitated the development of tailored context-specific interventions that are anticipated to enhance health literacy, improve healthcare accessibility, and promote health equity for migrants.

Key messages:

- Ideas Generation Workshops provide a platform for a wide range of groups to have their say and know their voice is being heard.
- Co-creation tailors interventions to diverse needs, avoiding a one-size-fits-all approach.

Abstract citation ID: ckae144.921
Identification of different types of nicotine product users: results from a cluster analysis

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Background: Smoking cessation interventions often target people that use nicotine products as one homogenous group. However, heterogeneity exists among people who smoke and/or use e-cigarettes. The aim of the current study was to characterize clusters of nicotine product users based on their use and motives.

Methods: The study included 2000 people who smoke and/or use e-cigarettes aged $\geq$18 years in the Netherlands. Respondents were recruited from a large survey-panel between August and October 2023. The questionnaire consisted of questions on demographics, product use/frequency, and motives to use nicotine products and motives to quit. A cluster analysis was used to identify the number and nature of subgroups reporting similar product behavior and/or motives. Analyses were weighted to correct for imbalances between the survey sample and the population of the Netherlands.

Results: Four clusters were identified. Cluster 1 'socially-influenced smoker' (13%) had a greater proportion of men, participants indicated using a variety of products and often try a product if they have seen other people using it. Cluster 2 'party smoker' (5%) was characterized by participants being young, mostly smoke during a social event, and indicated that drinking alcohol is a reason to smoke/use a nicotine product. Participants in cluster 3 'coping-driven smoker' (43%) were more often women, use nicotine products to reduce stress, to relax and regulate mood. Cluster 4 'Inveterate smoker' (39%) mainly contained participants of older age and endorsed smoking due to pleasure and habit and see smoking as part of their identity. The socially-influenced smoker had the highest intention to quit (67%), and the inveterate smoker the lowest (35%). Among all clusters, improving health was reported as most important reason to stop using nicotine products.

Discussion: Classifying nicotine product users into subgroups based on their use and motives could lead to more appropriate smoking cessation interventions.

Key messages:

- People who use nicotine products are not a homogenous group, but can be divided into different clusters based on their product use and motives.
- Classifying people that use nicotine products into subgroups based on their use and motives could lead to more appropriate smoking cessation interventions.

Abstract citation ID: ckae144.922
Physical activity promotion in Aged care: a participatory approach

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Introduction: Aged care facilities (ACF) constitute an increasingly important, yet challenging setting for health promotion - given it is a highly sedentary pseudo-total institution characterized by structured daily routines within a paradigm of care for residents perceived as fragile and vulnerable. A participatory approach with residents, significant others, staff, and management might be a promising pathway to address intrapersonal, sociocultural, organizational, environmental, and political determinants of physical activity in this specific context. We will present processes and results from a research project, funded by the German Ministry of Health (2019-2023), on physical activity promotion in ACFs.

Methods: Our co-creation approach involved residents, significant others, staff, and management from seven nursing homes in Southern Germany. Methods included 800hrs on-site observations, semi-structured interviews ($n = 31$), Photovoice ($n = 27$ participants, $n = 169$ photos), as well as future workshops ($n = 14$) for intervention co-development ($n = 14$) and co-evaluation workshops ($n = 7$). Data analysis used reflexive thematic analysis with MaxQDA20.

Results: Implemented interventions ($n = 57$) addressed individual, social, environmental, and organizational factors. Activity promotion was integrated into care concepts and mission statements, staff work descriptions, as well as informal internal routines. Of the interventions implemented, 33% were rated as more successful, 43% as successful, and 19% as less successful than anticipated.

Conclusions: Participation can initiate structural and cultural change towards physical activity. However, the analyses also emphasized the critical role of staff training, along with the involvement of significant others and external service providers, as essential components for achieving sustainable change.

Key messages:

- Participatory approaches integrate physical activity into aged care, fostering cultural shifts for resident well-being.
- Success requires staff training, engaging residents' support networks, balancing empowerment with protection.

Abstract citation ID: ckae144.923
Changes of lifestyle and mental health among COVID-19 situation: resident-centered health promotion

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Background: Yuzawa town, located in the Niigata prefecture of Japan, is famous for its hot springs and ski resorts. A sustainable action plan for resident-centered regional health promotion (Yuzawa family health plan) was initiated in 2002. Surveys have been conducted every five years. This study aims to evaluate changes of their habits and mental health status between in 2017 and in 2022.

Methods: The survey of Yuzawa family health plan was conducted in 2017 and in 2022. Questionnaires were composed with living alone, living with marriage partner, living with son or daughter, living with grandchildren, living with brother or sister, health consciousness, attention to health, health concern, awakening in a morning, clockwork life, fitness habits, smoking, taking alcohol, anxiety, loneliness, consultation, resolve suffering, economic problem, handle stress, taking a rest, risk breaching, communication, life satisfaction, talking with family, job at home, intercommunion with friends, greeting with neighbors, relationship with neighbors, occupations, good sleep, taking breakfast, nutritional balance, mastication status, confirmation of food compositions, exercise habits, yearly health check-up, dental check-up, brushing teeth habits, and sleep satisfactions. Chi square tests were used to evaluate changes between in 2017 and in 2022. This study was approved by the ethics committee of Tokyo Women's Medical University.

Results: Passive smoking, intercommunions with neighborhood and friends, exercises, and Salt reduction awareness reduced in 2022. Talking with family, taking a rest, attention to health, clockwork life, and sleep satisfactions increased.

Conclusions: Many changes were shown between in 2017 and in 2022. Because elderly has been able to use a mobile phone, loneliness was not increased. But numbers of elderly living alone have been increased from 2002. Health promotion programs giving health information for elderly is needed.

Key messages:

- Many lifestyle changes were shown between in 2017 and in 2022.
- Passive smoking reduced. Taking a rest and attention to health increased.

Abstract citation ID: ckae144.924
Correlates of using behavioural sciences to design health promotion interventions and programs

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Background: The World Health Organization highlighted the need to better integrate behavioural science in the field of public health. Based on the theoretical domains framework, this study examined correlates of public health practitioners' use of behavioural science principles to plan public health actions aim at promoting physical activity and healthy eating.

Methods: This study adopted a cross-sectional design. A convenience sample of 160 public health practitioners were recruited from different public health agencies (non-profit organizations, governmental and para-governmental agencies). They were asked to complete a survey questionnaire online and self-reported their use of behavioural science to plan health promotion interventions. Regression analyses were conducted to examine correlates of behaviour and behavioural intentions. All analyses were controlled for sex, number of years of experience in public health and the type of organization they work for.

Results: Skills (OR = 4.1, 95%CI: 1.3, 13.5) and intentions/goals (OR = 9.2, 95%CI: 2.3, 36.1) were the two domains significantly associated with the use of behavioural science. Perceived capacity to overcome the fact that none of their colleagues rely on behavioural sciences in their organization (OR = 7.2, 95%CI: 1.7, 30.3) was also associated with behaviour. Knowledge (OR = 8.6, 95%CI: 1.9, 39.1) and beliefs about consequences (OR = 4.0, 95%CI: 1.1, 14.7) were in turn associated with intentions/goals.

Conclusions: This unique study provides important insights for the development of future knowledge transfer activities aim at supporting positive attitudes and motivations toward the use of behavioural science as well as developing competencies and a normative use of behavioural science. The development of a strong knowledge basis would also need to be a core component of trainings to support the integration of behavioural science in public health to design physical active lifestyles and healthy eating interventions.

Key messages:

- Increasing knowledge and skills in behavioural sciences is a key for a better integration in public health practices.
- Changes in norms and attitudes toward the use of behavioural sciences will also support a better uptake.

Abstract citation ID: ckae144.925
Understanding compliance with smoke-free environments: a realist review

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Background: Local governments increasingly implement outdoor smoke-free environments to decrease adolescent smoking and denormalize smoking behavior. Recent research indicates that compliance with smoke-free outdoor spaces is often lacking. We examined compliance with outdoor smoke-free environments and examined the mechanisms that affect compliance in different contexts.

Methods: We performed a realist review, an exploratory approach that synthesizes existing evidence into a program theory that links elements of compliance with outdoor smoke-free environments with specific mechanisms and outcomes. A search was performed in PubMed, Web of Science, Embase, and PsycINFO, resulting in 25 relevant English language articles.

Preliminary results: Our analysis showed that the kind of enforcement (voluntary or enforcement with sanction options etc.) influences smokers' compliance. Additionally, how implementation of the smoke-free environment was done (with supporting signs, size of the environment, attention for smoking cessation etc.) also influenced smokers' compliance. For instance, with the implementation of an outdoor smoke-free environment (context), smokers get used to non-smoking. They are reminded they can quit smoking at any time (mechanism), leading to more compliance (outcome). If however, their social environment continues smoking (context), they are more inclined to keep smoking (mechanism), which leads to less compliance (outcome).

Conclusions: Compliance of smokers with smoke-free outdoor environments is influenced by the type of enforcement and the type of outdoor smoke-free environment. These mechanisms are important to understand so that policymakers may consider smokers' reactions and are better able to anticipate upon them.

Key messages:

- Type of enforcement and type of implementation influence compliance with smoke-free outdoor environments.
- This realist review helps policymakers consider smokers' reactions while implementing smoke-free environments.

Abstract citation ID: ckae144.926
International survey of young adults' opinions on tobacco endgame measures & e-cigarette regulations

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In the last decade, while tobacco consumption has decreased, there has been a significant rise in e-cigarette usage particularly among young people. Tobacco-free generations and other endgame strategies are being considered in several countries, moving from tobacco control towards ending the tobacco epidemic. This online survey of 18-34-year-olds evaluated opinions on potential endgame measures and e-cigarette regulations, to generate evidence to inform policy decisions. The survey was developed with input from the World Federation of Public Health Associations and Tobacco-Free Ireland, asking participants about support (yes/no) for 20 endgame measures in 4 domains and attitudes towards e-cigarettes. Utilising convenience sampling, the survey was distributed through international networks. Of 295 responses in 34 countries, 72% were never smokers and 56% were never e-cigarette users. 31% were aware of tobacco endgame. 68% supported increasing tobacco purchasing age to 21. 70% supported restricting tobacco sales to a limited number of licenced shops. 73% supported reducing nicotine content in cigarettes. 74% supported tobacco companies having to pay for health costs from smoking. 73% would like to see tobacco-free generation legislation in their country, but only 31% expected it would be successful. Regarding e-cigarettes, they were judged as more desirable than cigarettes mostly due to different flavours and visual appearance (both 74%). They were perceived to be an important health risk (82%) and as or more addictive than cigarettes (78%). 65% believed overall harms from e-cigarettes outweigh benefits for society. 86% felt they should be subjected to the same advertising restrictions as cigarettes and 66% supported increasing their cost. There was strong support for various tobacco endgame measures and tobacco-free generation legislation in this 18-34-year-old cohort. The majority recognised health risks of e-cigarettes and favoured stricter regulation of these products.

Key messages:

- An international survey of 295 young adults in 34 countries demonstrated strong support for various tobacco endgame measures including tobacco-free generation legislation.
- For e-cigarettes, there was wide acknowledgement of addictiveness and health risk, and support for increased education and warnings, lower nicotine content and reduced advertising and availability.

Abstract citation ID: ckae144.927
Students' attitudes towards and willingness to intervene in partner violence against women in Sweden

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Intimate partner violence against women (IPVAW) is a global public health problem, shown to be related to gender equality and to attitudes towards IPVAW. In Sweden, however, the reported prevalence of IPVAW is high, despite high levels of gender equality and a clear condemnation of such violence on the societal level. This phenomenon has been referred to as The Nordic paradox. One potential explanation for this paradox is that gender equality measures at the public level are not necessarily comparable to gender equality at a private level. One way to find out more about this is to investigate attitudes towards IPVAW at an individual level, which has so far been done to a limited extent in a Swedish context. In the current study, the aim was to investigate different aspects of attitudes to IPVAW (perceived acceptability, perceived severity, victim-blaming and ambivalent sexism) among university students in Sweden, and whether those attitudes were related to studentś willingness to intervene in cases of IPVAW. Any gender differences related to IPVAW attitudes and willingness to intervene were also examined. The respondents ($n = 656$, ≥ 18 years old) were recruited from three different universities and represented different scientific fields (e.g. social, behavioral, and technical sciences). Most of the respondents were undergraduate students and the majority were women (81%). The results showed that the students had rather non-accepting attitudes towards IPVAW overall, but viewed victims as to some extent responsible of the violence they are subjected to. There were no gender differences regarding willingness to intervene in cases of IPVAW, and attitudes to IPVAW were related to willingness to intervene. There were both similarities and differences between male and female students, in terms of how attitudes were linked to willingness to intervene. The presentation will discuss the results and their implications for future research, policy and practice.

Key messages:

- Increased knowledge on attitudes towards IPVAW in Sweden may shed light on the Nordic paradox.
- While non-accepting attitudes were found overall, gender differences and tendencies towards victim-blaming were identified.

Abstract citation ID: ckae144.928
Citizen needs towards personalised medicine and genetic testing: results from a European survey

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Introduction: Personalised Medicine (PM) aims to tailor diagnostic and therapeutic pathways for patients. Despite technological advancements in this field, public awareness of PM remains limited, representing a barrier to its clinical integration.

Methods: We conducted a survey across eight European Countries (France, Germany, Hungary, Italy, Netherlands, Poland, Romania, Spain) via the private platform YouGov, in April 2023. Our web questionnaire explored knowledge of PM, willingness to embrace it, and trust in information delivered by mass media.

Results: Of 6,581 respondents, approximately 42% lacked sufficient knowledge of PM and genetic testing, while 36.3% found information about the topic not easily accessible. Healthcare providers were the most trusted source of information (according to 80% of responders), followed by educational institutions (71.4%). Education, age, and gender significantly influenced the acceptance of PM and

mass media trust, highlighting the association between high education level, readiness to embrace PM, and high trust in academic sources of information. Additionally, age, gender, and geographical location influenced the perception of PM and genetic tests in various ways across Europe. Despite the geographical differences, 63.2% of respondents want to know more about PM, and 60% support its implementation in clinical practice.

Conclusions: Although the growing interest in PM genetic, and -omics technologies, large sections of the population still lack access to information and understanding, indicating a disconnection between technological advancements and public awareness. The study emphasizes the importance of providing focused citizen engagement initiatives to implement PM approaches. Citizen participation in defining personalised diagnostic and therapeutic pathways is vital to empower individuals and enable them to make informed health choices.

Key messages:

- Understanding European citizens' attitudes and needs regarding Personalised Medicine is crucial for creating policies and facilitating access to new technologies and treatments.
- Despite limited knowledge, European Citizen recognize the importance of Personalised Medicine for their health, seek further understanding, and place trust in Academic Sources of Information.

Abstract citation ID: ckae144.929
Sociodemographic inequalities in smoking cessation: a population survey from Flanders, Belgium

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Background: Flanders' decline in daily tobacco use will not reach the aim of a 5% prevalence by 2040. A faster reduction necessitates, especially among low-educated and socially vulnerable groups, as in these groups the decline goes slower. Towards future smoking cessation interventions within these specific target groups, this study examined prevalence and sociodemographic inequalities in different indicators of smoking cessation in Flanders.

Methods: Data from the 2022 Prevention Barometer, a probability-based survey from Flanders, were used ($N = 4011$, 18+). Prevalence in ever smokers was calculated overall and by age, sex, educational attainment, making ends meet and employment status. Daily smokers reported their past-year quit smoking attempts, upcoming-year quit smoking intentions and intentions to use cessation aids. Former smokers reported successful cessation and use of cessation aids. Multivariate logistic regressions, including all demographic variables, aimed to uncover inequalities.

Results: Quit smoking attempts in daily smokers (26.5%) were lower for low education (vs. middle and high education). Quit smoking intentions in daily smokers (41.0%) were lower for low vs. middle and low vs. high education. Daily smokers had lower intentions to use cessation aids (48.5%) when having difficulties in making ends meet. Among ever smokers, being older, having high education (vs. middle and low education), having no difficulties in making ends meet and being retired (vs. working and not working) was associated with higher odds for successful quitting (73.2%). Among former smokers, people being retired (vs. working and not working) had higher odds of using cessation aids (15.3%).

Conclusions: Low educated daily smokers are less likely to quit smoking. Former smokers limitedly use cessation aids to quit smoking and the use varies regarding one's sociodemographic profile. Encouraging quit attempts and equitable access to cessation aids are public health priorities.

Key messages:

- Low-educated smokers in Flanders face barriers in quitting, highlighting the need for targeted cessation support.
- Socioeconomic disparities impact cessation aid utilization, underlining the importance of equitable access to aid for all demographics.

Abstract citation ID: ckae144.930
Non-health-targeted promotions and step counts of smartphone-based mall walking program users

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Background: The COVID-19 pandemic changed lifestyles and raised concerns regarding physical inactivity among adults. Mobile health interventions for physical activity may be a potential solution. However, the effects may diminish over time. This study investigated whether incorporating non-health-targeted promotions into an existing mobile health-walking program could stimulate users to walk.

Methods: We used nationwide cohort data of smartphone users participating in a shopping mall walking program in Japan. We focused on existing users registered in the program until October 31, 2022. A Japanese anime tie-in promotion was conducted by the shopping mall company from December 3 to 25, 2022, offering additional rewards alongside the regular program. We collected step count records of existing users 1 month before and after (November 1 to December 2, 2022, and December 26, 2022 to January 31, 2023, respectively), and during the promotion period. Propensity score matching was applied to ensure balance in the baseline characteristics of existing users in terms of gender, age, and pre-promotion program participation frequency. Next, we analyzed the association between participation in the promotion program and the average daily step counts during and after the promotional period using mixed effects models for repeated measures, while adjusting for the same covariates.

Results: Among the 18,156 users included in the study, 13,386 (73.7%) were women, with a mean (SD) age of 45.2 (12.7) years, and a mean (SD) pre-promotion program participation frequency of 9.7 (9.6) per month. During the promotion period, the participants walked 87 (95% CI: 50-125) more steps per day than non-participants, after adjusting for covariates. No clear association was observed 1 month post-promotion.

Conclusions: These findings indicate that non-health-targeted promotions may be short-term motivators for existing app users to walk. Ongoing monitoring is necessary to assess the long-term impact.

Key messages:

- Mobile health intervention effects may diminish over time.
- A non-health-related promotion could stimulate existing mall walking program app users to increase their daily step count temporarily.

4.R. Poster walk: Public health economics

Abstract citation ID: ckae144.931

Cost per kilogram weight-lost - Lifestyle change program at the Public Health Institute in Croatia

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According to the 2019 European Health Survey, 42% and 23% of the Croatian adult population were affected by overweight or obesity, respectively. Counselling services are available in some Public Health Institutes for free or paid out-of-pocket. The estimated cost per kilogram lost in programs in Europe and the USA ranges from 100-340€, with a justifiable cost estimation for a weight loss intervention being 120-210€. Aim was to demonstrate the cost of losing one kilogram by analysing necessary initial material and human resources, including equipping counselling centres, and estimating the cost of continuous implementation. In the year 2023, 47 participants (31F,10M) with a BMI higher than 30 kg/m2 enrolled in the three-month free Program in the County Public Health Institute in Pozega. The program consisted of personalized assessment, habit change plan, education, counselling and follow-up. An analysis of the minimal required equipment and working hours of physician and a nurse (contracted gross hourly wage rates) was conducted. The main outcome measure was the cost of one kilogram lost by participants at the end of the Program. Program was completed by 41 (22F, 9M) participants (87.2%). Their initial BMI ranged from 30.3 to 47.4 kg/m2. Collectively, they lost 323.2 kg (1.3-24.4kg), with an average of 7.9 kg or 7.4% (1.7-19.8%) of their initial weight lost. The estimated total cost of medical, IT and office equipment, was 9363€. The human resources cost was 9509€, with a specialist and nurse spending 249 and 116 hours, respectively (27.6€/hour and 13€/hour). The initial cost per kilogram lost, including the prerequisites for the work of the counselling centre, was 58.4€. The continuous program cost with equipment already in place is estimated at 27.9€ per kilogram lost. We have shown that the lifestyle management program in the Croatia without extra cost to patients delivers results with a cost of 27.9€ per kilogram weight-lost in continuous implementation.

Key messages:

- The significant impact of obesity on premature mortality and healthcare systems calls for the systematic implementation of effective weight management programs that are available to patients for free.
- It is possible to implement effective weight management program in Croatia without extra cost to patients for 27.9 € per kilogram weight-lost.

Abstract citation ID: ckae144.932

Consumer Preferences for Health Services Offered by Health Insurance Companies in Germany

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German health insurance companies increasingly strive to position themselves as health partners to their customers to improve customers' health and contain costs. However, there is uncertainty about customers' preferences for health services offered by health insurance companies. Therefore, this paper studies consumer preferences for health services that are or could be provided by health insurance companies in Germany. An online survey was conducted using two stated preference techniques to collect and analyze the data (namely, rating and ranking of health services considered by insurance companies). A sample of 880 German health insurance customers between 18 and 65 years old filled out the online questionnaire, of which 860 submitted complete responses. Ordinal logistic regression analysis was used for the rating and ranking. Preliminary examinations, care management, and health programs were the three health services most important to the respondents. The results suggest that people want their health insurance to support them with preventive health services that offer direct therapeutic value and not just informational, economic, access-related, or convenience-related benefits. These preferences for health services are homogeneous for most subgroups of the population, implying that health insurance companies could consider an overall strategy to address these preferences for all clients by focusing on the important health services.

Key messages:

- People value health services provided by health insurers that offer direct therapeutic value over those that offer only informational, economic, access or convenience benefits.
- As preferences are homogeneous across the population, insurers could consider an overall strategy by focusing on the important health services.

Abstract citation ID: ckae144.933

Cost-effectiveness of respiratory syncytial virus adjuvanted vaccine in Portuguese aged $\geq$ 60 years

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Background: Respiratory syncytial virus (RSV) infections are one of the leading causes of lower respiratory tract disease among adults aged ≥60 years in Europe. This study aims to assess the potential public health impact of the RSVPreF3 OA adjuvanted vaccine, the first approved preventive intervention for the older adult population in Portugal.

Methods: A monthly-cycle static Markov model was developed to assess RSVPreF3 OA adjuvanted vaccine impact on adults aged 60 years and older in Portugal. A single dose of RSVPreF3 OA adjuvanted vaccine was compared to no-vaccination over a three-year time-horizon. The model captures lower respiratory tract disease (LRTD) RSV cases, hospitalizations, deaths, and healthcare resource utilization. Data inputs were based on local published literature, supplemented by the best available data when local information was lacking.

Results: Based on preliminary analysis considering 75% vaccine coverage, model outputs estimate that RSVPreF3 OA adjuvanted vaccine can prevent 71,433 LRTD cases requiring medical attendance, 11,067 hospitalizations, 1,793 intensive care unit admissions and 1,003 deaths. The model estimates that 32 adults need to be vaccinated to avoid one RSV LRTD case, 207 adults need to be vaccinated to avoid one hospitalization and 2,283 adults need to be vaccinated to avoid one death. The incremental cost-effectiveness ratio was estimated at 9,541€, hence the RSVPreF3 OA adjuvanted vaccine is cost-effective compared to no vaccination.

Conclusions: The results demonstrate a strong preventive impact of the RSVPreF3 OA adjuvanted vaccine on health outcomes and healthcare resource utilization in adults $\geq$60 years, leading to a significant public health benefit. This result emphasizes the importance of preventing RSV to preserve the health and well-being of Portugal's older adults. In addition, data from ongoing studies may enhance precision and extensive sensitivity analyses validate the robustness of the model's input assumptions.

Key messages:

- This study shows the robust evidence of RSVPreF3 OA adjuvanted vaccine to improve public health by preventing thousands of hospitalizations and deaths among $\geq$60 years, in Portugal.
- Vaccinating adults aged $\geq$ 60 years with RSVPreF3 OA adjuvanted vaccine in Portugal is a cost-effective strategy.

Abstract citation ID: ckae144.934
Decision-analytic modelling of costs & benefits of adding sigmoidoscopy to CRC screening in Germany

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Background: In Germany, a colorectal cancer (CRC) screening programme is in place that entitles individuals to a stool test or colonoscopy. However, less than half of those eligible participate. The inclusion of an additional screening option, such as the evidence-based sigmoidoscopy, could lead to a higher overall participation rate, but also to individuals preferring the additional option to the more effective colonoscopy. The objective of this modelling study is to estimate the impact of offering sigmoidoscopy as an additional option for CRC screening in Germany.

Methods: A life-time mathematical model (Markov model) is developed to analyse the long-term effects of the additional offer of sigmoidoscopy on benefits (prevalence, mortality, health-related quality of life (HRQoL)), costs, and cost-effectiveness. The model is based on systematic literature reviews and real-world healthcare data. It incorporates disease development, sensitivity and specificity of the options, compliance rates, survival probabilities and background mortality. A discrete choice experiment (DCE) was conducted to estimate the future uptake of the options (stool test, colonoscopy, sigmoidoscopy, no screening) based on stated preferences of $n = 666$ individuals.

Results: Adding sigmoidoscopy leads to greater effectiveness of the CRC screening programme in terms of increased screening participation, increased adenoma detection, decreased disease-specific mortality, and improved discounted HRQoL. However, it also incurs higher costs. The incremental cost-effectiveness ratios (ICER) for men and women are €507 per quality-adjusted life year gained (QALYg) and €74 per QALYg, respectively.

Conclusions: The results indicate that the inclusion of sigmoidoscopy in the German CRC screening programme would be cost-effective and that sigmoidoscopy should be piloted in practice. The expanded programme has the potential to enhance the program's effectiveness, improve health outcomes, and reduce the burden of CRC.

Key messages:

- Expanding the CRC screening programme may increase overall participation, resulting in higher costs, but also greater effectiveness in detecting more adenomas, reducing mortality, improving HRQoL.
- Introducing sigmoidoscopy in Germany appears cost-effective and justifies practical piloting to enhance CRC screening efficacy and health outcomes.

Abstract citation ID: ckae144.935
Factors Associated with Unmet Supportive Needs in Adult Cancer Survivors in South Korea

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Purpose: As the number of cancer survivors increases, addressing their unmet supportive care needs (USCNs) has become crucial. This study aimed to evaluate the influence of financial toxicity on USCNs and identify comprehensive factors associated with USCNs among adults' cancer survivors.

Methods: A cross-sectional survey using convenience sampling from the 2022 Korean Population Census. Data were collected online between November 17 and December 15, 2022. The study included 1,038 cancer survivors aged 19 years or older who had completed primary treatment. Multivariable logistic regression was analyzed to identify factors associated with USCNs.

Results: Two-thirds (65.7%) of cancer survivors experienced severe financial toxicity, correlating with high unmet supportive care needs. Among those who reported a severe financial burden, a substantial 170 out of 187 respondents, or approximately 90.9%, were identified as having high unmet supportive care needs. Cancer survivors had the highest needs in the order of 'management of psychological symptoms' and 'coping and emotional needs'. Cancer survivors diagnosed between 5 and 10 years ago were found to be less likely to report unmet supportive care needs compared to those diagnosed more recently, with an odds ratio of 0.14. Additionally, breast cancer survivors and individuals who were unemployed at the time of diagnosis had a higher likelihood of experiencing unmet supportive care needs, with adjusted odds ratios of 1.68 (95% confidence interval: 1.088-2.603) and 1.80 (95% CI: 1.125-2.891), respectively.

Conclusions: Cancer survivors with moderate to severe financial distress were more likely to be at risk of experiencing a high level of unmet supportive care needs. Coping and emotional needs are the most important concerns among the unmet needs of cancer survivors regardless of the time since cancer diagnosis.

Key messages:

- Cancer survivors in South Korea with moderate to severe financial distress are twice as likely to face a high level of unmet supportive care needs.
- The most significant unmet supportive care needs among South Korean cancer survivors relate to coping and emotional support, highlighting the need for enhanced mental health services.

Abstract citation ID: ckae144.936
Unequal cannabis use among European adolescents: the mediating role of perceived access and risk

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Introduction: Cannabis use among adolescents is a public health concern, because of its association with the use of other illicit drugs, mental health disorders, and social problems. Most studies show that adolescents from low socioeconomic status (SE) background are more likely to use cannabis, but the causes of SE inequalities remain to be understood. We test whether access and risk perceptions of cannabis use among disadvantaged adolescents explain the SE gradient.

Objectives: The aim of this study was to measure the mediating effect of access perception and risk perception on the association between SE status and cannabis use among European adolescents in 2019.

Methods: A cross-sectional, observational, analytical study was conducted, among 16-year-old students, based on data from the European School Survey Project on Alcohol and Drugs (ESPAD) in 2019. The outcome was cannabis use (experimental, regular, and problematic) and the exposure was SE status (parental education and subjective social status). Mediating variables were perceived accessibility and perceived risk of cannabis use. We used logistic regressions, where the odds ratio (OR) reduction measures the part of the association explained by the mediators.

Results: Regular and problematic cannabis use was significantly more prevalent among adolescents with a lower SE background (low parental education and low subjective social status, $p < 0{,}001$). This relationship remained significant after adjustment for perceived access and risk, and the modification of ORs was of a small magnitude (a non-significant reduction of the association).

Conclusions: Perceived accessibility and risk showed a weak mediating effect of the association between SE background and cannabis use. Consequently, these factors cannot be considered as major explanations for the higher use among worse-off adolescents. Reinforcing information or imposing stronger barriers in access may not help reduces SE inequalities in cannabis consumption.

Key messages:

- Perceived accessibility and risk hardly explain the association between socioeconomic background and cannabis use among European adolescents.
- Reinforcing information or imposing stronger barriers in access may not help reduces socioeconomic inequalities in cannabis use.

Abstract citation ID: ckae144.937
New evidence on household financial protection against out-of-pocket payments for health in Poland

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Background: Protecting households against financial hardship when using health care is an integral element of universal health coverage. Previous analysis showed that in Poland, catastrophic spending on health is more common than in many European countries. Over the last decade, several measures were undertaken to reduce the burden of out-of-pocket payments for households in Poland.

Methods: The study aimed to assess financial protection in Poland using the indicators of catastrophic and impoverishing health spending. It relies on the methodology developed by the WHO Region Office for Europe. Catastrophic expenditure is defined as out-of-pocket payments that are greater than 40% of household capacity to pay. The study uses data from the Polish household budget surveys in 2013-2021.

Results: The incidence of catastrophic health spending remained relatively constant over the years analyzed, with 9% of households affected. Only in the first year of the COVID-19 pandemic (2020) it reached nearly 10%, although overall household out-of-pocket expenditure declined that year. The share of households impoverished or further impoverished due to out-of-pocket payments decreased from 4% in 2013 to 3% in 2021. Payments on medicines are the main driver of catastrophic spending, particularly among poorer households, although their role has diminished over time. Household's available resources, gender, age, education, disability status, residence place, number of children, and household's main source of income are significantly associated with catastrophic health payments.

Conclusions: Despite the implemented policies, household financial protection against out-of-pocket payments in Poland did not improve significantly between 2013 and 2021. Available evidence should be used to design well-tailored measures to reduce the burden of out-of-pocket payments, targeting the most vulnerable population groups and specific healthcare areas.

Key messages:

- Household financial protection against out-of-pocket payments in Poland did not improve significantly between 2013 and 2021.
- Out-of-pocket payments for medicines are the main cause of financial hardship for Polish households.

Abstract citation ID: ckae144.938
Geographical variation in prostate cancer testing explained by socio-economic position in Stockholm

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Background: Prostate cancer screening using prostate-specific antigen (PSA) testing is controversial but remains prevalent in many countries. Despite its prevalence there is little information in Sweden or globally on the spatial heterogeneity in PSA testing. This study aims to describe the spatio-temporal variation in PSA testing in the Stockholm region specifically at the municipality and small area level. Additionally, it aims to quantify the extent to which socio-economic position (SEP) indicators such as education, income, and country of birth explain the observed variation in PSA testing.

Methods: A retrospective population-based register study was conducted, encompassing men aged 40 years and older residing in the Stockholm region from 2007 to 2016. Utilizing spatial smoothing techniques, we calculated the age-standardised proportion of men undergoing PSA testing prior to any prostate cancer diagnosis within each area for every calendar year. Furthermore, we used Bayesian logistic regression models with spatial random effects to estimate the individual-level association between PSA testing and socio-economic position. The proportion of variance in PSA testing explained by various measures of SEP was also estimated at both the municipality and small area levels.

Results: Significant geographical disparities in PSA testing were observed across small areas within Stockholm. The proportion of variance explained in PSA testing at the small area level was highest for income (32.6%), followed by education (9.7%) and country of birth (7.4%). Incorporating all SEP measures led to a higher proportion of explained variance at the small area level (41.6%) compared to the municipality level (24.8%).

Conclusions: PSA testing was significantly associated with various socio-economic indicators and some of the spatial variation could be explained by SEP. It would be useful to ascertain whether similar patterns are observed in other regions or countries.

Key messages:

- The findings suggested widespread and consistent opportunistic prostate cancer screening practices within the Stockholm region, raising concerns regarding potential overdiagnosis and overtreatment.
- The socio-economic differences in prostate cancer screening could partially explain the differences in cancer incidence and mortality.

4.S. Poster walk: Migrant and ethnic minority health

Abstract citation ID: ckae144.939
Health selection in three cohorts of outmigrants, return migrants and non-migrants

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Background: The two main hypotheses behind the healthy migrant effect are selection of healthier migrants and the salmon bias. However, these hypotheses have not been thoroughly and simultaneously investigated in distinct cohorts due to data limitations.

Methods: Linking national and provincial immigration registers with health care utilization datasets at the Manitoba Centre for Health Policy, we assembled a cohort of 816,185 adults who resided in Manitoba, Canada and were followed up for at least one year between 1985 to 2023 to outmigration, return migration or death. We included three subcohorts of international immigrants (16.4%), interprovincial migrants (10.8%) and all other Manitobans (AOM) (72.8%). Within each subcohort, we matched ‘stayers’ who never migrated, outmigrants and returnees on sex, birth year and place of residence and compared their hospitalization rates and Charlson and Elixhauser comorbidity scores 1-year before outmigration and 1-year after return migration.

Results: Outmigrants had lower hospitalization rates than stayers among AOM [Adjusted Relative Rate (RR): 0.80; 95% confidence interval (CI): 0.78, 0.82] and in the other two subcohorts. Comorbidity scores were also consistently lower among outmigrants compared to stayers in all three subcohorts, even after restricting to hospitalized cases. Outmigrants whose destination was another country were healthier than those who migrated to other provinces. Returnees had better health status than stayers upon return in the AOM subcohort only but lower than those who did not return at the time of outmigration in all three subcohorts.

Conclusions: Contrary to common belief, health selection is not restricted to international immigrants but also among interprovincial migrants and the local population. Migration dynamics may bias comparisons between population subgroups.

Key messages:

- Migration is not only associated with positive health selection among international immigrants but also among interprovincial migrants and the local population.
- Selective migration may represent a source of bias in health-related population-based studies.

Abstract citation ID: ckae144.940
Polish midwives’ experiences of providing maternity care to Ukrainian women in Poland

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Background: Migrants’ health has attracted the attention of researchers for many years, particularly from the perspective of barriers in access to healthcare systems. Providing high quality care to migrants and refugees, especially in contexts of significant and sudden arrivals, may be particularly challenging.

Aim: The aim of our research was to learn about the experiences and strategies of midwives providing maternity care for Ukrainian migrant women in Poland after the outbreak of the full-scale war in Ukraine.

Methods: Five focus group interviews with 32 midwives providing maternity care in Poland were conducted. The interviews were thematically analysed.

Results: Healthcare personnel experiences a number of barriers to the provision of high-quality care to the migrant population. Polish midwives expressed mainly experience of two groups of barriers on: (1) individual and interpersonal, (2) management and organization levels. Firstly, at the individual and interpersonal level midwives experienced: fear for life and well-being related to the threat of war in a neighbouring country, depleting resources and post-pandemic fatigue, language barriers, lack of knowledge on caring for woman fleeing the war. Secondly, at the management and organizational level midwives experienced: lack of organizational support, interpreting services and documentation in any other language than Polish. In the first months after the outbreak of the full-scale war in Ukraine, most strategies to improve the provision of maternity care for women fleeing the war took the form of grassroots initiatives by the staff of individual care units.

Conclusions: The Polish health care services need systemic solutions prepared jointly by state and local authorities and considering the voices of midwives to support the provision of high-quality care to migrant population.

Key messages:

- Midwives were left to their own devices.
- Midwives need better preparation for providing high-quality care to migrant population.

Abstract citation ID: ckae144.941
Uptake of cervical screening and acceptability of HPV self-sampling in Irish Traveller women

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Introduction: Irish Travellers are a minority ethnic group. The 2010 All-Ireland Traveller Health Study noted the life expectancy of Traveller women was 11 years shorter than women in the general population. Coverage of the CervicalCheck, the Irish cervical screening programme, is 78.7% overall, however, there is no recently published data on the attendance of Traveller women. This study sought to determine participation by eligible Traveller women in CervicalCheck and the acceptability of HPV self-sampling.

Methodology: A face-to-face cross-sectional survey, adapted from the National Cancer Control Programme's 2022 National Survey on Cancer Awareness, was disseminated to Irish Travellers via Primary Health Care Travellers Project peer researchers, following ethical approval, May to December 2023.

Results: 451 Travellers participated; 286 (63.4%) were female. Of these, 178 (62.2%) were in the eligible age group for cervical screening. 134 (75.3%) advised they had received an invitation to screening; 121 (68% of all eligible; 90% of all receiving an invitation) advised they had attended at least once (regular attenders 88 (49.4%); 27 (15.2%) irregular attenders). Of all responders in the screening eligible age group, 36 (20.2%) reported HPV self-sampling as acceptable; 18 (50%) of these were non or irregular attenders at screening. Similar proportions of 25-45 year-olds (20.4%) and 46-65 year-olds (20%) reported HPV self-sampling as acceptable.

Conclusions: Irish Traveller women face barriers to accessing mainstream health services. Uptake of cervical screening overall is lower compared to the general population in this study; one issue may be unreliable postal service to Travellers and non-receipt of invitations. While the overall acceptability of HPV self-sampling was low at 20.2%, half of those who would self-sample did not attend or attended irregularly. HPV self-sampling has the potential to improve cervical screening rates among Traveller women.

Key messages:

- Irish Traveller women's uptake of cervical screening is lower than general population.
- HPV self sampling has potential to improve cervical screening rates in Travellers.

Abstract citation ID: ckae144.942
Patients' experiences of racism in German inpatient healthcare

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Background: Racism is recognised as a social determinant of health. An evolving concern in research and policymaking has been the impact of racism in the healthcare system, particularly regarding the quality of healthcare and barriers for healthcare. Little is known about patients' experiences of racism in hospitals and rehabilitation facilities in Germany and their coping strategies in dealing with racism.

Methods: As part of a joint project on racism in healthcare (RiGeV) funded by the Federal Ministry of Education and Research, twenty qualitative interviews and two group discussions with patients and their next of kin about their experiences in hospitals and rehabilitation facilities were conducted and analysed using the documentary method. Ethical approval for this study was obtained from the Ethics Committee of Fulda University of Applied Sciences.

Results: Interviews with patients and their next of kin revealed that the most significant experiences of racism in hospitals are attributions of dramatisation and exaggeration of pain, embedded in a general perception of not being taken seriously and/or being ignored. Patients try to avoid such experiences that compromise their trust and sense of security, as well as the quality of treatment they receive. Healthcare for refugees is impacted by structural barriers (AsylBLg) which jeopardise the healing process and represent a considerable psychosocial burden.

Conclusions: Recommendations for policies and practice include a mission statement for non-discriminatory treatment and the sanctioning of racism within healthcare institutions. A complaints office should manage implementation and offer support for affected patients. The topic of racism must be addressed in the training and further education of doctors and healthcare professionals. Patient trust in a safe and high-quality form of healthcare should be strengthened by addressing their complaints. Health care for refugees has to be improved.

Key messages:

- Racism in German inpatient healthcare represents a considerable psychosocial burden for patients and impairs the quality of treatment they receive.
- Policies for reducing racism inpatient healthcare have to be implemented.

Abstract citation ID: ckae144.943
Can health communication improve newly settled refugees' health literacy? A quasi-experimental study

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Structural and contextual factors such as limited work opportunities, inadequate housing options and discrimination negatively affect the health and well-being of newly settled refugee migrants in European countries. In Sweden, health promotion initiatives aiming at strengthening health, resilience and integration have been tried out within the Introduction Program for refugee migrants. The main component of these interventions has been educational activities in the form of health communication. Generally evaluated from the perspectives of participants and course leaders, longitudinal evaluations remain rare. The current study aimed to compare the effectiveness of a regular and an extended civic orientation course with added health communication and examine whether the latter would improve self-rated health and psychological well-being, health literacy and social capital among newly settled refugee migrants in Sweden. Pre- and post-assessment questionnaires were collected from the intervention group receiving the extended course ($n = 143$) and a control group receiving the regular course ($n = 173$). Linear mixed models and chi-square analyses showed a significant increase with a small effect size (0.21) in health literacy in the intervention group. However, there were no significant changes in general self-rated health, psychological well-being or emotional and practical support. The findings indicate that added health communication embedded in the civic orientation course can increase health literacy. However, further longitudinal studies are needed to confirm the sustainability of the observed change in health literacy and its translation into long-term advances in health and integration.

Key messages:

- Added health communication provided within the Introduction Program for refugee migrants can increase health literacy.
- Increased health literacy may be beneficial for newly settled refugees as it is linked to improved health-seeking behavior, better health outcomes and empowerment.

Abstract citation ID: ckae144.944
Cultural filters in processing information on COVID vaccines among minoritized groups in London, UK

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Introduction: Vaccination coverage among minoritized groups, including migrants, is low in the United Kingdom. Cultural factors are often cited as barriers, yet the broader impact of minoritization on vaccine acceptance remains understudied. We explored the intersection of culture with individual, familial, and systemic factors in shaping trust and perceptions of COVID-19 vaccines in East London, UK.

Methods: We conducted focus group discussions (n = 6) and interviews (n = 19) with individuals from minoritized backgrounds in East London to elicit their perceptions and experiences of COVID-19 and the vaccination programme. Thematic analysis was used to identify individual, social, and systemic factors influencing the processing of perceived value of information on COVID vaccines.

Findings: Culture was rarely cited as an explicit barrier to vaccine uptake. Instead, participants' linked their perceived vulnerability and immunity to COVID-19 with age, sex and health status. Information about COVID vaccines was processed and acted upon in the context of gendered family dynamics and support. Community identity, gatekeepers and social networks further influenced the perceived legitimacy of information received. Some participants voiced how their minoritized status shaped trust/mistrust in the national health system's and government's delivery of the COVID-19 information and vaccination campaigns

Conclusions: Unpacking cultural filters is crucial for addressing vaccine-related information barriers in minoritized groups. Going beyond mere language translation, tailored communication materials should address social enablers and systemic barriers. Further, closer collaboration between community gatekeepers and healthcare professionals to facilitate optimal use of these materials is needed to improve vaccine uptake.

Key messages:

- Culture should not be assumed to be the main factor contributing to non-adherence and non-uptake of public health vaccine.
- Vaccine uptake can be improved by healthcare workers and key community gate-keepers working collaboratively with minoritized groups.

Abstract citation ID: ckae144.945
Factors influencing protective gear use in crisis-affected Afghanistan during COVID-19

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Background: Afghanistan has faced considerable challenges in healthcare delivery during the COVID-19 pandemic. These challenges were compounded by limited health literacy, shortages of skilled health workers, and fragile health infrastructure, which increased the country's double burden of disease. The World Health Organization (WHO) recommended the use of masks as part of a comprehensive strategy to mitigate the spread of SARS-CoV-2. Nevertheless, research on mask-wearing practices in Afghanistan is limited. This study aims to investigate the factors influencing the wearing of protective gear, including masks, during the COVID-19 pandemic in Afghanistan.

Methods: This study analyzed 16,058 households from the 2020 Afghanistan Multi-Sector Needs Assessment (MSNA) survey data. This survey was conducted between August and September 2020 by the Racial and Ethnic Approaches to Community Health (REACH) Initiative. Sampling weighted multivariable binary logistic regression analysis was performed.

Results: Recent internally displaced persons (IDPs) and returnees in Afghanistan were more likely to wear protective gear to prevent COVID-19 compared to non-recent IDPs. Factors such as household sizes, household income, knowledge of humanitarian support, and the distance to healthcare facilities were significantly associated with the likelihood of wearing protective gear.

Conclusions: The study suggests that certain factors place crisis-affected populations in Afghanistan at high risk in COVID-19 preventive behaviors, especially in wearing protective gear. The findings in this study indicate that public health interventions should focus on improving healthcare accessibility and enhancing information dissemination while considering socioeconomic factors. Additionally, this study highlights the need for access to personal protective gear during outbreaks of infectious disease, such as the COVID-19 pandemic.

Key messages:

- Socioeconomic factors and accessibility on health services and information can affect COVID-19 preventive behaviors in crisis-affected populations.
- This study can inform public health professionals to develop adequate interventions during infectious disease outbreaks.

Abstract citation ID: ckae144.946
Vaccine-preventable diseases in migrants to Europe: a systematic review

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Migrant populations in Europe are at increased risk of under-immunisation and therefore likely to be at high risk of vaccine-preventable diseases (VPD), yet the relationship between migration and VPD incidence is not fully understood. This study aimed to explore the prevalence of VPDs in migrant populations in Europe and to define at-risk groups. Following PRISMA guidelines, Embase, MEDLINE and Global Health were searched for peer-reviewed papers published from 1st January 2010. Inclusion criteria comprised primary research on VPD cases (measles, mumps, rubella, diphtheria, pertussis, tetanus) among migrants to/within EU/EEA and Switzerland. We defined migrants as foreign-born nationals. Forty-seven eligible studies from 15 EU/EEA countries and Switzerland were included, with a total of 1357 migrant VPD cases reported. Analysis revealed 1357 migrant cases across measles (28 publications; 926 cases), pertussis (9; 267 cases), mumps (9; 107 cases), diphtheria (11; 67 cases), rubella (2; 6 cases imported from Romania and Pakistan), tetanus (2; 2 cases). Over-representation of measles cases was observed among migrant children and adolescents, predominantly from the WHO Europe region (particularly Bulgaria, Bosnia and Herzegovina and Serbia). Migrants of East African origin were over-represented among diphtheria cases. This study underscores the association between migration and VPD cases in EU/EEA and Switzerland, establishing a clear association between European migrant children and adolescents in measles outbreaks, and adult migrants from East Africa in diphtheria cases. This study suggests strengthening systems for targeted catch-up vaccination for migrants is imperative upon arrival in European countries to align them with national schedules, alongside the need to improve data collection and surveillance systems to inform effective public health interventions.

Key messages:

- Migrant populations in Europe face heightened risk of vaccine-preventable diseases and need to be better incorporated into catch-up vaccination initiatives on arrival.
- Improved data collection and surveillance systems are crucial for informing effective public health interventions targeting migrant populations.

Abstract citation ID: ckae144.947
Comparison of perinatal hospital services of women living in Roma settlements in Slovenia

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Background: Women living in Roma settlements in Slovenia had worse perinatal health indicators comparing with women from the rest of population. They gave more births in younger age and used fewer preventive services and later in pregnancy. Roma children had higher chances to be born earlier and with lower birth weight. We explored the differences in provided hospital services between pregnant Roma and the rest of female population in Slovenia.

Methods: We identified the female inhabitants of Roma settlements from the national registry of population and separated from the rest of the population data. Health indicators were provided from the national health register - Perinatal Information System for the years from 2018 to 2022. The frequency statistics, ANOVA and comparison of column proportion tests were used ($p\text{-value} < 0.005$, 95% CI) to compare the differences in categories of services in those two groups.

Results: Statistically significant differences were found in several hospital services comparing treatments of pregnant females from Roma settlements comparing to the rest of female population. Women from Roma settlements had higher ratio of gynecologic history without remarks, fewer treatments and less prevention investigations in prenatal period and higher ratio of natural start of delivery. In addition, by Roma females was used less medication during delivery, less episiotomies and fewer caesarean section were performed.

Conclusions: There are significant differences in provision of hospital services between female inhabitants of Roma settlements and the rest of population. Some of them could be explained by younger average age of delivery in Roma, but additional research would bring more light in possible impact of socio-economic and cultural determinants on both the use and provision of health services.

Key messages:

- There are differences in provided health services between Roma women and the rest of female population. In depth research of prenatal and hospital services would bring additional explanations.
- Considering the health inequalities which start by birth, targeted and tailored actions to improve health of Roma women and their new-borns are appropriate and necessary.

Abstract citation ID: ckae144.948
Educational and employment for adults with a history of migration and foster care in Finland

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Several studies document the adverse educational prospects for both immigrant-origin as well as out of home placed children and youth. Few studies have examined the educational and employment outcomes of migrant-origin young adults with a history of out-of-home care (OHC), which is the aim of our study. Methods. We studied all subjects born in 1976 to 1995 abroad and immigrated to Finland as underage persons prior to 2010 ($N = 20\,037$), comparing them to children born in Finland to foreign born parents ($N = 3198$) and a matched random sample of host population ($N = 23\,187$) according to register data 1991 to 2015. We formed OHC alumni and non-OHC alumni groups among refugee-origin born abroad and in Finland, non-refugee-origin born abroad and in Finland as well as native Finns group. Logistic regression analysis was used in which age of the child in the first placement, number of placements and the type of the first place were adjusted. Results.Minors both with refugee and non-refugee background born in Finland were more likely than native Finns to be placed in OHC. A history of OHC predicted less chance of degrees completed and being employed compared to non-OHC peers in all study groups. Refugee background born abroad having history in OHC had lower educational and employment outcomes as young adults compared to other OHC groups. Education made difference since immigrant background having OHC history and post-compulsory degree had two times higher likelihood of being employed. The first OHC during teenage years decreased odds for post-compulsory education but increased odds for employment. Multiple placements in OHC decreased a youth's chances of completing degrees and employment

Key messages:

- Education made difference since persons with OHC history and degrees done had two times higher likelihood of being employed.
- Refugee origin OHC alumni were in the most vulnerable position with less degrees and less employment, and thus they need any support in their studies.

Abstract citation ID: ckae144.949
Prevalence of Mental health and Receipt of Services in Latino Immigrants Living in Philadelphia

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Background and Purpose: Research shows that Latino populations are less likely to seek formal mental health services, these attitudes combined with difficulty finding affordable services impact the ability to receive a mental health diagnosis. This project examines mental health symptoms, utilization of mental health services, and socio-ecological barriers to receive mental health services among Latino immigrants, including region of origin, health insurance, immigration status, and English proficiency.

Methods: Data was collected between 2021-2022 by Drexel University's CRISOL lab using a cross-sectional respondent-driven sample survey of Latinos born outside the U.S. mainland and residing in Philadelphia. The final sample included 420 Latino/a/e immigrants. Descriptive statistics and bivariate associations using Chi-square analyses were computed.

Outcomes: The findings revealed that 29.1% of the surveyed individuals exhibited signs of Depression, 36.1% experienced symptoms of Anxiety, 8.7% showed signs of PTSD, and 43.4% possessed one or more mental health conditions. The findings show that country of origin ($p<.01$), health insurance ($p<.05$), immigration status ($p<.01$), and language proficiency ($p<.001$) are significantly associated with whether an individual has received mental health services in the past year or in their lifetime. Of the survey population, only 39.5% of individuals with one or more mental issues had received mental health services in their lifetime.

Conclusions: Interventions to increase access to mental health services for Latino communities are needed. Solutions addressing disparities in access to mental health services must address systemic, cultural, and language barriers.

Key messages:

- Region of origin, health insurance, immigration status, and English proficiency impact the utilization of mental health services.
- Immigrant populations face stressors that increase the risk for mental health disease and experience multiple barriers to access mental health services.

Abstract citation ID: ckae144.950
Diagnoses of mental health disorders among Norwegian youth and young adults with immigrant parents

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Introduction: Adolescence and early adulthood are associated with an increase in mental health problems. Migration is also a risk factor for mental disorders. Yet, there is a notable gap in research concerning the mental well-being of descendants of immigrants. This study investigates the risk of a diagnosis of a mental health disorder among those aged 16-30 years, born in Norway with at least one immigrant parent.

Methods: Data were sourced from the Medical Birth Registry of Norway, the Norwegian Patient Register, and Statistics Norway. Cox proportional hazard regressions were used to estimate hazard ratios (HR) of being diagnosed with different mental disorders, in total and by parental region of origin, compared to individuals of Norwegian background. Analyses were adjusted for sex, year of birth, and parental education.

Results: Individuals with two immigrant parents had a lower risk of most mental disorder diagnoses, while those of one immigrant parent had a higher risk. With the exception of schizophrenia, individuals with two immigrant parents had a lower risk of most mental disorder diagnoses compared to those with Norwegian-born parents. The HR for the risk of a diagnosis of anxiety for those with two immigrant parents was: 0.79 [95% CI 0.76 - 0.81], with immigrant mother: 1.07 [95% CI 1.04-1.10], with immigrant father: 1.28 [95% CI 1.24 -1.30]. Similarly, for depression, two immigrant parents: 0.85 [95% CI 0.82-0.88], immigrant mother: 1.13 [95% CI 1.09 - 1.17], immigrant father: 1.31 (95% CI 1.28-1.37). Bipolar disorders, two immigrant parents: 0.67 [95% CI 0.60-0.76], immigrant mother: 1.19 [95% CI 1.07 - 1.31], immigrant father: 1.47 [95% CI 1.35-1.61]. The pattern was relatively consistent across parental regions of origin.

Conclusions: Those with one immigrant parent are more likely to use specialist mental health services, while those with two immigrant parents are not. These need special attention in adulthood.

Key messages:

- Differences in risk of diagnosis for mental disorders could be due to differences in the utilization of mental health services.
- Early prevention of mental health issues seems to be especially important among children and youth raised in families with one immigrant parent.

Abstract citation ID: ckae144.951
Co-creating stigma-prevention strategies for mental health interventions with migrant populations

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Background: The ADVANCE project aims to address mental health disparities among people in a situation of vulnerability in Europe. Through a co-creation approach, workshops were conducted to devise stigma prevention strategies during the implementation of mental health promotion interventions for migrant populations in Italy and Denmark.

Methods: The methodology involved two rounds of scenario-based workshops, a participatory method that elicit expert opinions to solve local problems and anticipate future ones. Round 1 included two separate workshops with (1) end-users and umbrella organizations, and (2) healthcare practitioners and decision-makers, to ensure diverse perspectives and minimize the impact of power imbalances. Participants brainstormed strategies to minimize stigma and optimize the intervention scenario. In Round 2, a mixed-group workshop was held to refine the strategies. Workshops occurred in Copenhagen and Verona in March 2024. Content analysis of the data was carried out.

Results: In Denmark, discussions emphasized tailored presentation of the intervention promoting shared experiences and normalizing mental health challenges, language sensitivity, participation through self-identification, and attention to relational aspects in intervention delivery to combat stigma effectively and enhance acceptability and engagement with the intervention. In Italy, proposed strategies included group exercises to raise awareness and promote open dialogue about cultural differences, language barriers, and discrimination. Discussions also considered the intersectionality of stigma, including factors like gender, socioeconomic status, and sexual orientation. Common themes included language sensitivity, facilitator training, and inclusive and safe spaces.

Conclusions: Scenario-based workshops can be a valuable tool to facilitate the co-creation of stigma-prevention strategies while involving all stakeholders in promoting effective mental health interventions.

Key messages:

- Co-creation approach fostered stakeholder collaboration, yielding tailored strategies that promote inclusivity, acceptability and engagement with mental health interventions for migrant populations.
- Context-specific approaches that emphasize trust, confidentiality and cultural sensitivity were prioritised to tackle stigma when implementing interventions and promoting mental health equity.

5.R. Poster walk: Achieving universal health coverage: reducing health inequity

Abstract citation ID: ckae144.952

Socioeconomic inequalities in cervical cancer screening in sub-Saharan Africa: Decomposition analysis

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Background: Cervical cancer remains prevalent in sub-Saharan Africa (SSA). Despite global efforts to eliminate this disease, its incidence continues to rise due to barriers in screening, vaccination, and treatment access. While studies address access barriers, little has explored inequality, often limited to single countries. Here, we examine socioeconomic inequalities in cervical cancer screening in SSA.

Methods: Data from the Demographic and Health Surveys of 10 SSA countries was used for the analysis. We stratified the study by wealth index and educational attainment as a measure of socioeconomic status. Socioeconomic status inequalities in cervical cancer screening were constructed using concentration curves. We then computed the concentration index to quantify socioeconomic inequality. To examine the factors associated with high socioeconomic inequality in cervical cancer screening, a decomposition analysis was conducted.

Results: Concentration curves showed screening uptake skewed towards the wealthy and educated across all countries, reflected by positive concentration indices (CIX=0.21; p-value<0.0001) except in Burkina Faso and Mauritius. Decomposition analysis revealed significant positive concentration indices for women with complete secondary (CIX=0.74) and higher education (CIX=0.91), those in the richest wealth index (CIX=0.35), separated women (CIX=0.08), currently working women (CIX=0.02), as well as those who were exposed to reading newspaper/magazine (CIX=0.19), listening to radio (CIX=0.10), and watching TV (CIX=0.44).

Conclusions: Cervical cancer screening in SSA exhibits pro-rich and pro-higher educational inequalities. Urgent interventions are needed to restructure existing screening programs to prioritize accessibility and inclusion, particularly for women from poorer households and with a lower level of education. These findings are vital for policymakers and public health practitioners to address cervical cancer screening disparities in SSA.

Key messages:

- Addressing socioeconomic inequalities in cervical cancer screening is crucial for improving public health in sub-Saharan Africa.
- Combatting socioeconomic disparities in cervical cancer screening is critical for achieving health equity in sub-Saharan Africa.

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Inequalities in Primary Care Provision in Gwangju Metropolitan City, South Korea

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Background: Primary care clinics play a crucial role in community health promotion by facilitating early disease detection and management. The number of these clinics in Gwangju Metropolitan City increased from 931 in 2000 to 2,400 in 2022, but this growth was not evenly distributed within the city. This study aims to examine the spatial inequalities in the distribution of clinics in Gwangju Metropolitan City.

Methods: This study utilized local administrative licensing data on medical institutions classified as clinics. To estimate healthcare resource imbalances, Lorenz curves and Gini indices for the number of clinics per 100,000 individuals and per square kilometer were calculated by district.

Results: The number of primary care clinics per 1,000 individuals or per square kilometer was highest in Dong-gu and Seo-gu, while Gwangsan-gu had relatively fewer facilities. In particular, Buk-gu, Seo-gu, and Nam-gu had more than 40% of areas with a high number of healthcare facilities relative to population or area, whereas less than 50% of Gwangsan-gu fell into the lower tier in these categories. The Gini index, used to measure the geographical inequality of healthcare facility distribution, showed a slight improvement from

2000 to 2023. However, Seo-gu and Buk-gu exhibited different trends compared to other districts.

Conclusions: Geographical disparities in the distribution of primary care clinics in Gwangju Metropolitan City have slightly improved since 2000, but show different patterns by district. Addressing healthcare imbalances is essential for enhancing health equity, requiring multifaceted efforts to mitigate disparities and improve medical service accessibility in underserved areas.

Key messages:

- Significant disparities exist in the distribution of primary care clinics across Gwangju, with higher densities in Dong-gu and Seo-gu, and fewer facilities in Gwangsan-gu.
- The Gini index for clinic distribution has improved since 2000, but disparities remain, particularly in Seo-gu and Buk-gu. Continued efforts are essential to reduce healthcare inequalities further.

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Gender stereotypes in Ukrainian healthcare: results of the mixed methods study

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Background: A good interpersonal patient-provider relationship is crucial for quality care, still patients frequently perceive interface as discriminatory and marginalizing, reinforcing societal gender roles and hindering healthcare quality. This becomes even more critical for healthcare systems with limited resources and prolonged emergencies, such as Ukraine during the COVID-19 pandemic and full-scale war. We explore gender stereotypes of healthcare workers in Ukraine.

Methods: This mixed-methods study was conducted in August-September 2022, and included: 1)16 online focus group discussions with 93 healthcare workers; 2)survey conducted face-to-face with 1,529 physicians and 502 nurses; modified Nijmegen Gender Awareness in Medicine Scale questionnaire was used. Qualitative data was transcribed and inductively analyzed. Survey results were analyzed in SPSS using descriptive statistics and correlation analyses.

Results: Healthcare workers perceived women patients as ‘more demanding’ and ‘less accommodating’ compared to men. Thus, 64% of healthcare workers perceived female patients as overusing health services; 44%-believed women have higher expectations than male patients; 61%-thought they expected excessive empathy; and 58%-noticed women veering off-topic during consultations. Also, respondents who supported the belief that male patients better understand doctors’ recommendations were more likely to also support the statement that female patients, compared to male patients, more often have higher expectations from doctors ($rs = 0.4$, $p < 0.001$). With age prevalence of gender stereotypes increased among healthcare workers; there were no significant differences by sex of healthcare workers, healthcare facility type, position, or geographical location.

Conclusions: It is crucial to develop and implement gender-sensitive approaches in Ukrainian health facilities, rooted in comprehensive training and continuous professional development targeting prevalent gender stereotypes.

Key messages:

- Gender stereotypes are prevalent among healthcare workers in Ukraine.
- Gender-sensitive approaches and comprehensive training should target prevalent gender stereotypes.

Abstract citation ID: ckae144.955
Institutionalising guideline development in a new universal healthcare system: a study in Cyprus

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Issue: Guideline development is a lengthy and diligent process that involves the assessment and interpretation of evidence by a committee. Whilst the implementation of high quality healthcare guidelines ensures consistency and quality in healthcare delivery, many countries worldwide, including Cyprus, lack the capacity and resources to develop de novo guidelines.

Description of the problem: Guidelines developed by internationally recognised organisations, such as NICE, are a valuable resource for countries like Cyprus. The collaboration between NICE and the newly established healthcare system in Cyprus introduced a process for guideline institutionalisation, taking advantage of existing human resources and building guideline development capability in Cyprus.

Results: This process involved recruiting local professionals to form a guideline secretariat. The secretariat, supported by NICE, is responsible for overseeing the guideline development process including technical expert committee (TEC) recruitment and stakeholder consultation. The TEC contextualise an existing NICE guidelines to reflect local considerations. NICE provides quality assurance to ensure changes are contextual in nature and consistent with the underpinning evidence. Despite initial challenges, getting stakeholder buy-in and engaging healthcare professionals in the TEC, one contextualised guideline has been produced and two others are at the final stage.

Lessons: Guideline contextualisation is an efficient and sustainable way of building guideline development capability to institutionalize guidelines in settings with limited capacity.

Key messages:

- De-novo guideline development is time consuming and demanding and many countries require an alternative process for producing locally relevant guidelines, capitalising on existing resources.
- Support by an established organisation ensures quality, is less resource intensive, and builds capability for the sustainability of the process.

Abstract citation ID: ckae144.956
In at the Deep End: Innovative approaches to engaging underserved communities in Northern England

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Background: People living in socio-economically deprived communities have greater health needs, but worse access and outcomes from care. A growing international movement of Deep End (DE) general practice networks established to promote health equity, address challenges posed by the inverse care law and advocate for increased research involvement. Researchers, community members and practitioners in the North of England are exploring ways of engaging with underserved communities and addressing low levels of inclusion in research.

Methods: DE research i) co-designing the North East and North Cumbria (NENC) DE network with practitioners to prioritise service investment, research activities and initiatives for local communities; ii) Deep End Research Alliance Yorkshire and Humber (DERA-YH) and Participatory Action Research to increase research capacity and reflect upon the evolution of a novel primary care Community Research Link Worker role (CRLWs).

Results: Prioritisation activities in the NENC DE network, uncovered the volume and complexity of clinical and social need, leading to the co-design and evaluation of initiatives to improve mental health care, increase childhood immunisations, tailor deprescribing, support training, and increase patient inclusion in research. In the DERA-YH, the CRLW model increased participation in research from ethnic minority communities regarding prostate cancer, lung health, dementia, and contraceptive services. Community leaders stated that sharing resources and power in the research process builds trust and interest in research in their communities.

Conclusions: DE networks in Northern England have driven innovative approaches to engage underserved communities in research, fostering empowering and enduring relationships to address health and care inequalities. Co-design methodologies and CRLWs integration into research teams had a transformative impact on the accessibility of research for communities and for the researchers' positionality.

Key messages:

- Deep End networks are advancing approaches to meaningful engagement and partnership working with underserved communities, to address health, care and research participation inequalities.
- We recommend co-design by default and CRLW models to build capacity and embed reflective practice, mutual respect, and power sharing across the research team.

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Social prescribers' referral processes and decision-making about healthy eating and physical activity

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Background: Social Prescribing (SP) connects primary care patients with non-medical sources of support within the community. There are various SP models, with different referral routes. Many involve patients being referred to a link practitioner, who considers their needs and then "prescribes" or links them to appropriate local support services or resources, typically provided by the third sector. The present study aimed to explore the SP process and the decision-making of link practitioners, particularly around food and physical activity practices.

Methods: Sixteen semi-structured interviews were conducted with link practitioners working across Aberdeen City. A pragmatic Thematic Framework analysis was undertaken.

Findings: Participating link practitioners described their approach with clients as building rapport and trust while maintaining boundaries and managing expectations, and their community role as resource mapping and networking. Three broad categories of factors were considered during referral: 1) practicality (e.g., location, transport, cost, mobility, availability), 2) clients' engagement (e.g., interest, motivation, readiness for change), and 3) link practitioners' past experiences with services. Challenges identified included navigating waiting lists and service limitations, clients' engagement and expectations, under-resourced services, navigating waiting lists with caseloads and the emotional burden of seeing people in very difficult situations. All link practitioners considered diet and exercise to fit within the remit of social prescribing but emphasised that clients should lead this discussion. Dietary support via social prescribing typically revolved around poverty rather than health.

Discussion: The study provides insight into the practical reality of making social prescribing decisions and has the potential to inform training and evaluation processes and support the development of health-focused social prescribing lifestyle interventions.

Key messages:

- Social prescribing – a personalised approach, with clients supported to identify and achieve their health and wellbeing goals based on their strengths and resources available in the local community.
- Social Prescribing - a promising platform for offering healthy eating interventions tailored to individual needs.

Abstract citation ID: ckae144.958
Changes in anxiety among youth with and without disabilities before, during and after the pandemic

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Background: Disabled youth are a vulnerable group that have faced challenges during the pandemic. Research about mental health and its changes of disabled youth during and after the pandemic is limited. Thus, this study examined changes in anxiety symptoms among youth with disabilities compared to those without disabilities before, during, and after the pandemic.

Methods: We analyzed population-based cross-sectional data from the Finnish School Health Promotion study (SHP) of youths with an age range of 12-29 years obtained in before (2019; n = 155,166), during (2021; n = 160,796), and after (2023; n = 151,224) the pandemic. Disabled youth were identified based on the Child Functioning Module (CFM). Anxiety symptoms were measured using the Generalized Anxiety Disorder-7 (GAD-7). Logistic regression models were applied to investigate population-level changes in anxiety.

Results: Over the years, the prevalence of anxiety symptoms was higher among youth with disabilities (10.2%, CI95% 10.1-10.4) compared to youth without disabilities (40.1%, 39.9-40.4), females having more symptoms than males. Prevalence of anxiety increased significantly during the pandemic (Before: 31.7% 95%CI 31.2-32.3 & During: 41.8%, 41.4-42.3) and continued to increase slightly after (44.4%, 43.9-44.9) among disabled youth. The same trend was seen in non-disabled youth (Before: 7.5%, 7.4-7.7, During: 11.4%, 11.2-11.6 & After: 12.0%, 11.8-12.2).

Conclusions: The prevalence of anxiety among disabled youth increased during the pandemic and has continued to increase even afterward, highlighting the inequality among youth with disabilities. The results indicate that it is important for educators and stakeholders to target measures and resources to support the mental health of youth with disabilities during and after a crisis, improving their equality in schools and society.

Key messages:

- Youth with disabilities experienced anxiety symptoms four times more often than non-disabled youth, and this difference has remained quite stable during the pandemic and afterwards.

- Decision-makers should be aware of this weaker mental health condition of youth with disabilities while planning preventive actions and interventions.

Abstract citation ID: ckae144.959
Unmet health needs during COVID-19 pandemic in Serbia

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Background: The COVID-19 pandemic made health care access more difficult. This study provides insight into significant individual factors associated with unmet needs in 2021 in Serbia.
Methods: The study is a secondary analysis of SILC data, conducted on a sample of 13,855 respondents aged 16 + (source: Statistical Office of the Republic of Serbia). The outcome variable is self-reported unmet need for physician service in last 12 months (yes/no). Multivariate logistic regression is used to identify factors significantly related to unmet needs. Demographic, socioeconomic factors and health needs, which have been found to be significant for outcome in univariate logistic regression, are entered in final analysis.
Results: It was shown that age, marital, employment status, income and health needs were significant factors for unmet needs. Compared to 16-24 age group, aged 65+ were more likely to report unmet needs, OR = 3.5(CI = 2.1-5.6); for 45-64 years old OR = 3.4 (CI = 2.1-5.3); for 25-44 OR = 2.0(CI = 1.3-3.1). Separated/divorced had higher odds for unmet needs than married ones, OR = 1.4 (CI = 1.2-1.8); as well as unemployed, OR = 1.4(CI = 1.2-1.6), and retired, OR = 1.2(CI = 1.0-1.5), than employed. Those from the 1st quintile, based on equalized disposable household income, were more likely to report unmet need compared to the 5th quintile, OR = 1.8(CI = 1.5-2.1). A gradient across all quintiles was proven (for 2nd quintile OR = 1.6(CI = 1.3-1.9), for 3rd OR = 1.4(CI = 1.1-1.7), for 4th OR = 1.3(CI = 1.1-1.5)). Compared to participants with very good/good health, those who perceive own health as very poor/poor had 3 times higher odds (CI = 2.5-3.5) to report unmet need; for those with average health OR = 1.7(CI = 1.5-1.9). Suffering from chronic illness increases odds 2.2 times (CI = 1.9-2.5).
Conclusions: The highest probability for unmet needs was established across most vulnerable groups, which is significant for preparing for future public health crises and preventing increase in health inequalities during them.
Key messages:
- During the pandemic,there was a higher probability of unmet health needs among the most vulnerable groups.
- Strategies need to be put in place to prevent health inequalities deepening in a future crisis.

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Dis-continuity in Continuity-of-Care: a pathway for more equal access to mental health care services?

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Background: Access to healthcare is core to achieving universal health coverage. Reaching and obtaining appropriate health care services requires engagement by health care organizations and users. For people with mental illness, access emerges as a continuous process, reflecting oscillating health conditions. This challenges aspirations of continuity of care (COC), but we know little about the experiences of users.
Methods: We carried out observations of interactions between professionals and users (n = 18) and semi-structured interviews with users, professionals, and managers (n = 33) in the specialised mental health services in Central Denmark Region and FACT-inspired teams in three municipalities. We also conducted 3 focus groups with regional and municipal professionals from these teams. Data was analysed through a qualitative thematic analysis.
Results: From the perspective of users, COC builds on the acknowledgment of their entire life situation. For users, this is about making connections between their past, present and future lives. Past experience affect their present abilities to follow treatment and influence future hopes and expectations. The acknowledgment of these connections often translates into spaces of discontinuity in continuity, where users need occasional breaks from treatment but worry about being excluded from treatment. Crucially, the organization of the FACT-inspired teams allows for flexibility in the intensity of visits and treatment. The norms of professionals also support users' perspectives on COC, as the norms focus on building trust in the relations between users and professionals.
Conclusions: One important step to achieve more equal access is to integrate the social world of users. This requires organizational and professional approaches that allow for user needs for dis-continuity in COC.
Key messages:
- For mental health service users, continuity-of-care includes breaks from treatment (discontinuity).
- More equal health access requires adapting continuity-of-care to needs as perceived by users.

Abstract citation ID: ckae144.961
Intersectional inequalities in child social-emotional health: a case for proportionate universalism

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Background: Social-emotional difficulties in early childhood are associated with a range of outcomes across the life course and are related to socioeconomic factors. The aim of this study was to examine intersectional inequalities in social-emotional problems in preschool children relating to their parents' income, education and country of birth in addition to investigating the public health implications.
Methods: This population-based study with a repeated cross-sectional design in the Västerbotten County of Sweden used the Ages and Stages Questionnaires: Social-Emotional (ASQ:SE) for children aged 3 in child health care services over the years of 2014-2018 and socio-economic information from national population registers. The effective sample of 8,823 individuals was analyzed using additive binomial regression in combination with an analysis of individual heterogeneity and discriminatory accuracy (AIHDA) approach to estimate risk differences for social-emotional problems across 27 intersectional groups and discriminatory accuracy.
Results: Average risk differences generally increased in the groups where multiple dimensions of social inequality intersected, with risk differences as high as 18% (95% CI 8 to 28%) and 25% (95% CI 14 to 37%) compared to the most advantaged category. The discriminatory accuracy of all three included regression models was estimated as moderate, but improved in a slight but statistically significant way with the addition of social inequalities.

Conclusions: This study increases our understanding of intersectional and social inequalities in social-emotional problems in preschool children. It supports the need for universal public health policies in addition to policies targeting more vulnerable groups when addressing this issue, consistent with the concept of proportionate universalism. An intersectional research perspective including discriminatory accuracy could increase our knowledge of health inequities and improve public health effectiveness.

Key messages:

- Intersecting dimensions of social inequalities are associated with an increased risk of social-emotional problems in children aged 3.
- Universal public health policies are needed in addition to policies targeting vulnerable population groups with regards to social-emotional problems in young children.

5.S. Poster walk: Public mental health

Abstract citation ID: ckae144.962
Work- & family-related stress & the risk of hazardous alcohol use: role of sex and social support

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Background: There is a lack of longitudinal studies investigating the effect of individual stress factors on alcohol use behaviour, and how sex and social support may mitigate the effect of these stressors. We aimed to determine the association of work- and family-related stressors with developing hazardous alcohol use over time among habitual drinkers, and to examine the role of sex and social support in these associations.

Methods: A sample of 4,046 individuals, working and living in Stockholm, age 25-55 years, habitual drinkers, who answered the PART study (Swedish acronym for Mental Health, Work and Social Relations) questionnaire regarding work- and family-related stress (exposures) in 1998-2000 (wave1) and 2001-2003 (wave2) were followed until 2010 (wave3) regarding hazardous alcohol use (outcome) measured using Alcohol-Use-Disorder-Identification-Test (AUDIT) score ($>=8$ in men, $>=7$ in women). Weights for selective attrition were calculated, and crude and multivariate (adjusting for sociodemographic, health- and previous stress-related factors) logistic regression models, yielding Odds Ratios (OR) with 95% Confidence Intervals (CI), were used to estimate the exposure-outcome associations. Analyses were stratified for sex and social support in general and at work.

Results: Job strain (a combination of high demand and low control) was not statistically significantly associated with hazardous alcohol use (OR, CI: 1.3, 0.9-1.9). Among those reporting any family-related stress, a significantly higher risk was observed (OR, CI: 1.5, 1.1-2.1), particularly among women (OR, CI: 1.7, 1.02-2.7) and those with low social support (OR, CI: 2.1, 1.2-3.6). These associations became non-significant after adjusting for previous family-related stress.

Conclusions: Public health measures aiming to prevent transitions from habitual to hazardous alcohol use should give special attention to individuals with family-related stress, especially among women and those with low social support.

Key messages:

- While job stress was not significantly associated, those experiencing family-related stress had a higher risk of hazardous alcohol use, especially among women and those without social support.
- Individuals experiencing family-related stress, particularly women and those lacking social support, require special attention in public health prevention strategies for risky alcohol consumption.

Abstract citation ID: ckae144.963
Depressiveness in German higher education students – a systematic review and meta-analysis

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Introduction: Evidence shows that German higher education students are vulnerable to depressive symptoms. However, there is no recent review compiling these findings. Thus, our study aims at describing the extent to which higher education students in Germany are affected by depressive symptoms.

Methods: We searched three databases for suitable publications using three core concepts ('depressive symptoms', 'students', and 'Germany'). The inclusion criteria were: (a) the population studied consisted of students from higher education institutions, (b) data was assessed at higher education institutions in Germany, (c) information on depressive symptoms were pro-vided as outcome of instruments assessing depressive symptoms, (d) articles were published in peer-reviewed journals, in (e) English or German and (f) between 2002 and 2023. Random effects models were used to calculate both general and subgroup-specific pooled prevalence rates. Subgroups were formed based on the included literature (e.g. gender, before or during the COVID-19 pandemic, study phase and programme).

Results: The literature search resulted in 992 articles. After the removal of duplicates and the two-stage screening process, prevalence data was extracted from 60 articles. The overall pooled prevalence rate was 21.1% (95% CI: 17.6% - 24.6%). Medical students (13.2%; 95% CI: 9.9% - 16.4%) and first-year students (11.0%; 95% CI: 7.7% - 14.3%) were less likely to be affected than students in general. Women (29.0%; 95% CI: 21.4% - 36.5%) were more prone to depressive symptoms than men (23.1%; 95% CI: 16.5% - 29.6%). In samples collected during the COVID-19 pandemic, the pooled prevalence rates were higher than in pre-pandemic times (30.6%; 95% CI: 22.1% - 39.1% vs. 18.0%; 95% CI: 14.7% - 21.2%).

Conclusions: This analysis emphasizes the pressing need to address the mental health of higher education students both at the policy level and within universities.

Key messages:

- German higher education students show alarming levels of depressive symptoms, demanding immediate action.

- During the pandemic mental health was even poorer than before, highlighting the need for tailored interventions and support in challenging times.

Abstract citation ID: ckae144.964
Gender and Education Differences in Mental Health in Belgium: a Bayesian Age-Period-Cohort Analysis

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Background: Mental illnesses (MI) constitute a growing public health problem, with reports of a higher prevalence among middle-aged adults (age effect), during specific periods such as economic crisis (period effect) and in recent birth cohorts (cohort effect). However, few studies have assessed whether these age-period-cohort (APC) effects were related to general population trends or if they are driven by changes in the mental health status of more vulnerable groups. Therefore, this study aimed to assess gender and educational differences underlying observed APC effects in the prevalence of MI in the Belgian adult population.
Methods: This study used data from six cross-sectional waves of the Belgian Health Interview Survey (1997-2018, ∼ 10,000 respondents per wave). Mental health was assessed using the 12-item General Health Questionnaire. Bayesian hierarchical APC models were applied on the prevalence of MI, taking into account gender and educational differences, as well as some potential confounding factors.
Results: Overall, this study confirmed the higher prevalence of MI in middle-aged adult, in 2013, and in more recent birth cohorts (1980-2000). Accounting for the interaction between gender and education, we found that the MI educational gradient was more pronounced for women than men. Finally, we found that APC trends were different between gender. The odds of having MI tended to be stable across age groups for women, while men showed an increased odds between 50-60 years and a decrease between 60-65 years. Regarding period and cohort effects, the increase odds in 2013 was mainly present in men, while the increase in recent birth cohorts was mainly present in women.
Conclusions: This study emphasizes that the age-period-cohort effects on mental health are different depending on gender and education, thus enriching our understanding on the underlying mechanisms to better guide future public (mental) health policies.
Key messages:
- This study shows the importance of studying not only the overall trends in mental illness, but also the underlying differences in its distribution.
- Insights into gender and educational differences in Age-Period-Cohort effects on mental health is crucial for the development of timely and efficient public health interventions.

Abstract citation ID: ckae144.965
Long-term mental health impairments in survivors of critical illness

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Background: Survivors of critical illness frequently suffer from long-term disabilities, including physical, cognitive, and mental impairments (post-intensive care syndrome). However, long-term studies are scarce and healthcare services for critical illness survivors are limited, not only in Germany. Therefore, we followed-up on anxiety, depression, and post-traumatic stress disorder (PTSD) during post-intensive care unit (ICU) rehabilitation and up to 1 year after critical illness onset.
Methods: Patients at Schoen Clinic Bad Aibling in Germany were eligible for this prospective cohort study after receiving ≥ 5 days of mechanical ventilation. The Hospital Anxiety and Depression Scale (HADS; subcategory score ≥ 8) was conducted after ICU discharge (V1), at discharge from inpatient rehabilitation (V2) and 1 year after critical illness onset (V3). The Impact of Event Scale-6 (score ≥ 1.75) was conducted to assess PTSD at V3. Multiple logistic regressions were performed.
Results: We included 250 patients (62±14 years, 34% female, median stay on ICU 55 days, median duration of rehabilitation 65 days). 10% died before V3. Anxiety decreased during rehabilitation (effect size $r = 0.35$, $p < .001$), but increased again until V3 ($r = 0.42$, $p < .001$). At V3, 54% suffered from anxiety. Depression also decreased during rehabilitation ($r = 0.46$, $p < .001$), and increased again until V3 ($r = 0.39$, $p < .001$). At V3, 44% showed depressive symptoms and 38% suffered from PTSD. COVID-19 diagnosis was associated with increased anxiety ($p < .001$), depression ($p = .068$), and PTSD at V3 ($p = .028$), compared to non-COVID-19 patients. Furthermore, longer duration of mechanical ventilation was associated with increased anxiety ($p = .041$) and depression ($p = .019$) at V3.
Conclusions: Mental health impairments frequently occur in critical illness survivors, and they seem to worsen after rehabilitation. As these impairments can significantly impact daily functioning and quality of life, tailored healthcare services are urgently needed.
Key messages:
- Anxiety, depression, and PTSD are frequent in critical illness survivors, even 1 year after critical disease onset. This calls for tailored healthcare services.
- Patients with COVID-19 and longer mechanical ventilation suffer from more severe mental health impairments.

Abstract citation ID: ckae144.966
Exploring anxiety and depression trends: insights from the BELHEALTH cohort 2022-2024 in Belgium

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Background: The swift impact of the COVID-19 pandemic and ensuing restrictions on the mental health of the Belgian population prompted the need for a sustainable system to monitor its evolution. Repeated COVID-19 surveys were conducted between 2020 and 2022 to address this issue, followed by the launch of the BELHEALTH cohort project. Our study aims to analyze the trajectory of anxiety and depression at the post-pandemic period, using data from five waves of the BELHEALTH longitudinal surveys from October 2022 to March 2024. High-risk groups and the potential of social support and resilience to mitigate anxiety and depression were explored.

Methods: The BELHEALTH follow-up cohort of around 7,300 Belgian residents uses online surveys to assess anxiety (with the GAD-7), and depression (with the PHQ-9). The analyses were performed using linear mixed models on the 3,676 individuals who participated in all five waves.

Results: Preliminary results indicated that more people were affected by anxiety in October 2022 (16%) compared to June 2023 (14%), while depression rates were lower in October 2022 (13%) compared to February 2023 (14%) and March 2024 (15%). However, the trajectory of mental health varied across demographic subgroups, with worse outcomes observed among unemployed and younger individuals, as well as those living alone, in the Walloon Region (South of Belgium). Overall, people with a low level of resilience or a low level of social support exhibited higher odds of experiencing depression.

Conclusions: Reducing these social inequities in mental health necessitates the development of structural prevention measures and interventions at the regional level. These measures should target factors such as unemployment, which is particularly prevalent among younger individuals and those living in Wallonia. Additionally, fostering protective factors such as social support and resilience is crucial for mitigating mental health inequalities over time.

Key messages:

- Monitoring mental health and its determinants remains crucial to identify and address social inequities, tailor interventions, and support vulnerable populations.
- Unemployed, younger people, and those residing in the Walloon region are at particular risk.

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Improving the rights of people with mental disorders in the Republic of Croatia

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The mental health care system in the Republic of Croatia, despite the ongoing reform, is still based on hospital treatment. Hospitalizations due to mental disorders are in first place according to the length of stay. According to the annual report of the Ombudsman in the Republic of Croatia, 2% of hospitalizations due to mental disorders are involuntary hospitalization. Coercive measures and deprivation of business capacity are also often used. In order to reduce the number of coercive measures, involuntary hospitalizations and deprivation of professional capacity, it is necessary to increase mental health literacy and knowledge about human rights and the rights of persons with mental disorders, both among mental health experts and among patients and their families, as well as the general public. In order to increase knowledge and skills related to the rights of people with mental disorders, the Croatian Institute of Public Health, has been conducting WHO Quality Rights workshops in Croatian counties since 2019. The two-day workshops include all stakeholders: local politicians and decision-makers, associations of people with mental disorders and their families, employees in the mental health care system with the involvement of the media. So far, the training has been conducted in five major Croatian counties. The Quality Rights e-training platform has been translated into Croatian and the link to access the training is available online. In order to ensure the sustainability of the program and expand knowledge and skills, obtaining a certificate of completed Quality Right training became a requirement for passing the specialist exam in public health and in psychiatry. In five years of implementation of the program, the number of coercive measures in psychiatric hospitals decreased by 58%. Respect for human rights is a prerequisite for improving the mental health care system and the mental health. of both patients and the entire population.

Key messages:

- Respect for human rights is necessary for the mental health of the population.
- Knowledge and skills about the rights of patients with mental disorders reduce the rate of coercive measures.

Abstract citation ID: ckae144.968
Buildings as reflectors of societal values: what features of psychiatric wards reveal about stigma

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Built Environment (BE) features bearing domestic attributes align with the concept of psychosocial re-integration. To understand the level of de-institutionalisation in relation to mental health infrastructure, a series of 29 case studies occurred in four countries from 2000 onwards. We collected data from Europe, the UK, New Zealand and more recently in the US: England ($n = 15$), France ($n = 5$), New Zealand ($n = 4$) and the US ($n = 5$). This included five acute wards in England and five in France in 2000-2004, two further acute wards in England in 2015-2017, four facilities in New Zealand in 2017-2020 (catering also for the Māori population), six further wards (older adult rehab, older adult dementia, acute, rehab, PICU, older adults) and two forensic wards in England and five wards in the US in three different hospitals (one mental health and four mental health wards in general hospital: two adult and two adolescent) in 2023-2024. An architectural checklist was developed to evaluate the traits of the exterior and interior and measure the degree of institutionalisation vs homelikeness for mental health buildings. Cross-country comparison revealed recent case studies to be closer to the institutional end with increased anti-ligature features. Most NZ and the US samples were the most institutional ones. The checklist revealed that acuity was potentially not a determinant of institutional versus domestic buildings. Data shown that very few features were universally present, questioning what is the absolute minimum in relation to the illness rather than the policies. The US sample provides further food for thought, especially in relation to the location of psychiatric wards inside general hospitals and the reasons that lead to this. Finally, by looking at the BE for mental health, we uncover issues regarding the service provision and institutional prejudices connected to stigma. This questions the adequacy of de-institutionalisation policies in certain contexts.

Key messages:

- The study of the architecture of healthcare facilities can depict aspects related to the health service provision and raise questions about the effectiveness of rehabilitation strategies.
- The architecture of psychiatric wards questions the success of some de-institutionalisation decision-making in a cross-country comparison.

Abstract citation ID: ckae144.969
Mental health problems identified in early school age and later mental health problems and disorders

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Background: Poor mental health in childhood and adolescence youth is an important public health challenge. We aimed to examine the prospective association between mental health problems among primary school children and later diagnosed mental disorders and mental health problems in youth.

Methods: A prospective cohort study of children participating in school health nurse examination during first years of primary school (approx. 6 years) in 17 municipalities in the capital region of Copenhagen, Denmark, with follow-up until their 16th birthday. Baseline data included information from national population registers and school health nurse records. Outcome variables: mental disorders diagnosed at hospital from approx. age 6 until 16 years (N = 6,930) and school health nurse records of mental health problems at approx. age 16 (N = 11,250).

Results: Problematic relations to peers in early primary school was associated with later neurodevelopmental disorders, including intellectual disability, autism-spectrum disorder and disorders of hyperactivity and inattention (AOR=4.14, 95% CI 2.15-7.97), and poor home related well-being in youth (AOR=1.67, 95% CI 1.02-2.74). Poor school well-being in early primary school was associated with poor school well-being ten years later (AOR=1.67, 95% CI 1.19-2.34) as well as problematic relations to peers (AOR=1.83, 95% CI 1.08-3.10). Further poor general well-being in early primary school was associated with problematic relations to peers in youth (AOR=2.21, 95% CI 1.17-4.18).

Conclusions: School health nurses identify a group of children in the early years of primary school with mental health problems and an increased risk of later mental health problems and disorders, and therefore they play an important role in the early identification of children at risk.

Key messages:
- Children with problematic relations to peers have up to a fourfold increased risk of later mental disorders.
- The school health nurses play an important role in the early identification of children at risk of later mental health problems.

Abstract citation ID: ckae144.970
Depression and its risk factors in a conflict-affected population: findings from a nationwide survey

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Introduction: The impact of armed conflict and war on mental health is well documented, with limited data on populations living in unrecognized states. In this study, we examined the prevalence and risk factors of symptoms of depression among the Nagorno-Karabakh population during a ceasefire period, prior to a blockade, full-scale military attack, and their forced displacement.

Methods: A total of 1023 women, aged 18-49 years, from all regions of Nagorno-Karabakh, participated in a population-based household survey in 2022, which included the Center for Epidemiologic Studies-Depression (CES-D) 16-item scale to assess their depression symptoms. Simple and multivariable linear regression analyses explored the socio-demographic factors associated with CES-D score.

Results: The mean CES-D score was 8.90 (SD = 8.93), and 13.1% of the respondents had a score >18 (presence of depressive symptoms). The adjusted linear regression showed that CES-D score was higher among divorced (2.66, SE = 1.15, p-value=0.021) or widowed (3.09, SE = 1.57, p-value=0.049) vs. married, and among those having war-related deaths in the household in the previous 2 years (8.60, SE = 1.65, p-value<0.001) vs. not having. Conversely, a vocational/university level (-2.33, SE = 0.70, p-value=0.001) or post-graduate education (-3.81, SE = 1.72, p-value=0.027) vs less than secondary/secondary level, and 3-5 members in the household (-2.71, SE = 1.16, p-value=0.020) vs.1-2 members were significantly associated with lower CES-D score.

Conclusions: Our findings suggest that depression symptoms are highly prevalent among women in conflict-affected areas, with specific socio-demographic factors increasing the risk of depression symptoms. These results highlight the importance of providing mental health support and interventions for women in conflict-affected areas, particularly for those who experienced loss in the family due to war, are divorced or widowed, live in small households, and have lower education.

Key messages:
- Depression symptoms are highly prevalent among women of reproductive age in areas affected by armed conflict and war.
- Mental health intervention is recommended for women in conflict-affected areas who experienced loss due to war, are divorced or widowed, live in small households and/or have lower education.

Abstract citation ID: ckae144.971
Mental health promotion research in co-creation: Lessons from a multisite study in six countries

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Background: Mounting public health threats associated with climate change, epidemiological and economic crises, digitalisation, rising migration, and population aging have uncovered at-risk groups' increased vulnerability to mental ill health. Developing mental health promotion interventions tailored to their specific needs and expectations is essential to protect their wellbeing. However, researchers may find it challenging to identify and implement needed adaptations without engaging with end-users, and other stakeholders, to co-create tailor-made interventions. This study aimed to explore co-creators' views about opportunities and constraints in participatory mental health promotion research.

Methods: Between September 2023 and July 2024, a qualitative study drawing on participant observation of bimonthly meetings and semi-structured interviews with six co-creation facilitators was conducted in the scope of Horizon Europe's project ADVANCE. The multi-methods research approach to co-creation entailed desk reviews and online Delphi surveys co-developed with locally-established Society Advisory Groups, and scenario-based workshops held with stakeholders in the six partner countries: Denmark, Germany, Italy, Lithuania, Netherlands, Switzerland. Thematic analysis of the data was carried out.

Results: Research teams' epistemic stances impact research planning, resource allocation, partnership nourishing and the unravelling of co-option risks during participatory research implementation. Research co-creation adds pressure onto research teams' agenda, skillset and performance, but it also encourages power sharing, mutual learning and greater alignment of research design and implementation with end-users' priorities and aspirations.

Conclusions: Research co-creation is a partnership-based and resource-intensive endeavour that can provide a valuable pathway to improve the relevance, acceptability and sustainability of public mental health promotion research.

Key messages:

- Research co-creation demands planning, adequate resource allocation, flexibility and continuous investment to sustain academy-society partnerships.
- Engaging stakeholders in knowledge co-creation can increase the relevance, acceptability and sustainability of public mental health promotion research.

Abstract citation ID: ckae144.972
Measuring social environment factors of depressed inpatients: A cross-sectional study

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The course and management of mental illness are both influenced by social contextual factors. Standardised questionnaires are required to monitor inpatients' social environment and to design interventions. This study aims to describe the social environment of inpatients with depression using standardised instruments, and to analyse the instrument's applicability. This cross-sectional study included depressed adult inpatients admitted to a German psychiatric hospital. We used three standardised questionnaires to evaluate social risk factors: the Lubben Social Network Scale (LSNS), the WHO Disability Assessment Schedule (WHODAS) and the Social Cohesion and Trust Scale (SCTS). The appropriateness of the questionnaires was assessed with a context-specific quality appraisal. Our study included 196 patients with depression having a mean age of 38.8 (SD = 13.7) years of whom 50% were female. A total of 164 (85%) of patients reported a family history of mental health problems, and 31 (38.8%) had experienced discrimination. Analyses of the LSNS and WHODAS showed that the prevalence of social isolation and disability was significantly higher among inpatients compared to the general population. The WHODAS scores were highest in patients aged 18-30, while social isolation was elevated but stable among different age groups (range 18.7- 19.4%). Both, the WHODAS and LSNS showed good clinical applicability, comparability, and test properties. A lack of validation in a young population of the LSNS was considered a weakness. The SCTS showed imperfections in its applicability and comparability. Depressed inpatients have a limited social network compared to the general population. We emphasise the importance of assessing the applicability of questionnaires representing social environment as the basis for developing interventions. We recommend systematic monitoring of social characteristics to identify potential targets of intervention and thereby facilitate the management of depression.

Key messages:

- Hospitalised patients with depression have a decreased social functioning and a smaller social network compared to the general population.
- Standardised social environment questionnaires should be consented and used to plan and enrich depression management.

Abstract citation ID: ckae144.973
Association between mental and physical health with poly-substance use among adults in 33 U.S. states

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Leveraging national data from 33 states in the U.S. for adults 18 and over (N = 347,060), from the 2020-2022 Behavioral Risk Factor Surveillance System (BRFSS), we investigated the association between current self-reported physical and mental health outcomes and substance use, focusing on alcohol, nicotine, cannabis, and all combinations of poly-substance use. Specifically, we conducted multiple weighted linear regression analyses using self-reported outcomes for poor mental and physical health in the last 30 days to examine seven mutually exclusive combinations: alcohol (A) only, nicotine (N) only, cannabis (C) only, A+N, A+C, N+C, and A+N+C. We adjusted for race, sex, age group, education level, and marital status in our analyses. For poor mental health, mean number of days ranged from 3.49 (SD = 7.07) for A-only to 10.39 (SD = 11.54) for N+C and for poor physical health, means ranged from 2.38 (SD = 6.24) to 7.17 (10.61) for N+C. All adjusted β coefficients were significant for poor mental health days, notably with the three highest being 4.36 (95%CI: 3.72-5.00) for C-only, 5.68 (95%CI: 5.06-6.30) for N+C, and 5.27 (95%CI: 4.76-5.79) for A+N+C. For poor physical health, all adjusted β coefficients were significant except for A+N, with the two highest being 2.88 (95%CI: 2.31-3.45) for C-only, 3.16 (95%CI: 2.62-3.69) for N+C, and 1.83 (95%CI: 1.54-2.11) for N-only. Recent poly-substance use containing nicotine and cannabis was both associated with 5+ days of poorer mental health and 3+ days of poorer physical health. Overall, our findings hold implications for informing future policy discourse, shaping public health campaigns, and designing educational initiatives aimed at the link between mental health and substance use. Understanding the dynamics of poly-substance use involving the three most commonly utilized substances globally among adults is critical for crafting targeted interventions.

Key messages:

- Recent poly-substance use (alcohol, nicotine, and cannabis) is related to poorer mental and physical health in the past 30-days.
- Recent nicotine and cannabis co-use is associated with 5+ days of self-reported poorer mental health and 3+ days of physical health.

Abstract citation ID: ckae144.974
Family: cornerstone for young people to be victims of violence in the university stage

Josue Eli Villegas Dominguez

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Introduction: Violence is a pervasive issue that wreaks havoc within communities, with the family serving as a cornerstone for the development of individuals, thereby influencing their behavior within society.

Objectives: To determine the association between a history of family violence and being a victim of violence among university students.

Methodology: This is a cross-sectional, prospective study that included university students of both sexes. Family function was measured using the Family APGAR test, while the dependent variable was experiencing any type of violence during the university stage.

Results: A total of 1148 participants were included, with an average age of 20.47 (±3.3) years, 63.9% were women, 94.9% were cisgender, and 77.3% were heterosexual; 45.3% of participants identified with family dysfunction, 45.3% had witnessed a violent act in their family, and 46% of participants experienced violence at university. When evaluating factors associated with experiencing violence, a positive association (OR/CI95%) was identified for attending a private school (1.4/1.1-1.9), alcohol consumption (2.4/1.7-3.5), having family disfunction (1.5/1.2-1.9) living in a family with violence (2.3/1.8-2.9), knowing friends who experienced partner violence (2.1/1.6-2.7) or family violence (1.9/1.4-2.5). Conversely, a negative association was found for being heterosexual (0.6/0.4-0.8), never witnessing sexual (0.3-0.2-2.5), physical (0.5/0.4-0.65), or psychological (0.3/0.2-0.4) violence in the family, nor experiencing violence during childhood (0.4/0.3-0.5), middle school (0.4/0.3-0.5), or high school (0.4/0.3-0.5) ($p < 0.001$), likewise, not exercising physical, psychological, sexual, digital or other types of violence during college presents $OR = 0$ ($p < 0.001$) in each of these items.

Conclusions: The social environment, alcohol consumption, a history of witnessing violence in family and friends, as well as the perpetration of violence are associated with receiving violence.

Key messages:

- Evidence indicates the importance of the family for the development of its members, since, just by witnessing behaviors, they favor the development of social roles.
- The first contact physician must return to his essence, focusing on the care of the patient in a comprehensive manner, including the environment in which he develops.

6.R. Poster walk: Epidemiology

Abstract citation ID: ckae144.975
Disability during the last ten years of life: Evidence from a register-based study in Austria

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Background: Many older adults experience disability in activities of daily living during the last years of life, but survey-based analyses suffer from non-representative samples due to selective participation and attrition. Here, we use individual-level register data on the receipt of the Austrian long-term care allowance (ALTCA) as a proxy for late-life disability.

Methods: In this retrospective mortality follow-back study, we analyse receipt of ALTCA, a cash benefit based on physician assessed disability during the last 10 years of life, among all decedents aged 65 years and over from 2020 in Austria ($n = 76{,}781$). The impact of sex, age of death, and cause of death on the duration and probability of receipt of ALTCA was assessed with regression models.

Results: 10 years before death 10% of older men and 25% of older women received ALTCA, which increased to 27% and 51% at 5 years, 56% and 77% at 1 year, and finally to 70% and 87% at 1 month before death. On average, ALTCA was received for 3.2 years in men and 4.5 years in women. The probability to receive ALTCA and its duration increased sharply with age at death and varied by underlying causes of death: those who died from cancer, myocardial infarction, and external causes of death were less likely to receive ALTCA and experienced shorter durations of it, while those who died from dementia, Parkinson's disease, chronic heart disease, or chronic obstructive lung disease were more likely to receive ALTCA and longer so.

Conclusions: Most older adults received ALTCA for multiple years before death, and this increased strongly with age at death and varied across causes of death. Our register-based estimates of late-life disability were twice as high as survey-based estimates, which points to an underestimation in previous studies. Policy-makers should be aware that costs of long-term care will likely increase as life expectancy rises and deaths from dementia and organ failure increase in ageing European societies.

Key messages:

- A large majority of older adults in Austria experience late-life disability. On average, older men were disabled for 3.2 and older women for 4.5 years.
- Probability and duration of late-life disability increased steeply with age at death and was higher for those who died from dementia, Parkinson's disease, or chronic heart or lung disease.

Abstract citation ID: ckae144.976
A longitudinal study of the impacts of area-level social cohesion on multimorbidity in Scotland

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Background: Multimorbidity is a growing global public health challenge, commonly referring to the co-occurrence of 2+ conditions but with varying measurements. Prior evidence has linked social cohesion with single health conditions; however, its impact on multimorbidity remains unclear. This study aims to examine the association between area-level social cohesion and multimorbidity and to explore whether this association will vary across multimorbidity measurements and levels of urban-rural classification.

Methods: Using a dataset that links the Scottish Longitudinal Study (5.3% of the Scottish population) with hospitalisation records (2001-2019) and an index that reflects area-level social cohesion (2012), focused on the cohorts of adults aged 40+, we used 3-level logistic regression to account for the clustered data structure of diagnosed chronic conditions over time within individuals within neighbourhoods.

Results: Areas with the highest social cohesion were observed to have the lowest risks of multimorbidity ($p < 0.001$), even after adjusting for area-level income deprivation. Varying by multimorbidity measurements, an inverted U-shaped pattern was observed between reduced area-level social cohesion and increased risks of having 2+ co-occurring chronic conditions; while a linear pattern was found for mental-physical multimorbidity. Moderated by levels of urban-rural classification, as compared to rural residents, urban residents were more sensitive to the impact of social cohesion on the co-occurrence of 2+ conditions; however, for mental-physical multimorbidity, no interaction effects between area-level social cohesion and urban-rural classification were found.

Conclusions: Although varying patterns were seen for different multimorbidity measurements, people living in areas with the highest area-level social cohesion were less likely to be multimorbid. This study offers new insights for developing effective place-based public health interventions.

Key messages:

- This is the first longitudinal study that analysed the association between area-level social cohesion and multimorbidity using a nationally representative dataset based on secondary care data.
- Area-level social cohesion affects multimorbidity, but its impact may vary by multimorbidity measurements and by urban-rural classification.

Abstract citation ID: ckae144.977
Introduction of wastewater surveillance of SARS-CoV-2 in Ukraine

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Since the Russian invasion, Ukraine has faced humanitarian crises and challenges in diseases surveillance. The primary healthcare (PHC) system struggled with growing numbers of internally displaced and wounded people. In October 2022, the PATH-led, USAID-funded Support TB Control Efforts in Ukraine (STBCEU) project, supported implementation of wastewater surveillance (WWS) for SARS-CoV-2 in four oblasts on request of the Ministry of Health (MoH), expanding to 18 oblasts by October 2023. Samples were collected from 64 sites twice per week and tested for SARS-CoV-2 and influenza A/B using BioExtract® Premium Mag test kits in regional laboratories. From October 2022 to April 2024, 4,784 samples were collected at municipal aqueducts, with SARS-CoV-2 delta and omicron variants detected across all regions. WWS sample results were compared with routine surveillance to assess trends in concentrations and reported cases among population. Gradual decrease in SARS-CoV-2 concentration to zero by May 29, 2023, coincided with a decrease in morbidity. In the last week of August 2023, the concentration of the SARS-CoV-2 in wastewater began its gradual increase with the beginning of new cases registration among the population within 2 weeks, by mid-September. From October 2023, SARS-CoV-2 dominated in 96.6% of positive WWS testing results; in other specimens, influenza and respiratory viruses have been identified. The implementation of WWS in Ukraine highlighted its effectiveness as a public health tool in settings where traditional surveillance methods are disrupted, providing timely data on the viral pathogens for outbreaks prediction and responses, underscoring its role in preventive health measures. The MOH of Ukraine recommended extending the method nationwide for routine surveillance of SARS-CoV-2 and other pathogens, enhancing Ukraine's capacity to manage public health threats and strengthen the resilience of its health system against future crises.

Key messages:

- WWS in Ukraine underscores its effectiveness as a public health tool, providing timely data on viral pathogens for outbreak prediction and response in disrupted settings.
- Notable decline in SARS-CoV-2 concentration in wastewater correlates with reduced morbidity, highlighting WWS's predictive value.

Abstract citation ID: ckae144.978
Food additive preservatives and antioxidants and risk of type 2 diabetes - NutriNet-Santé cohort

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Background: Experimental studies suggested potential detrimental effects of some food additive preservatives and antioxidants (PA) on metabolic health, but epidemiological data is lacking. This study aimed to investigate for the first time the associations between exposures to a wide range of PA and type 2 diabetes (T2D) risk in a large population-based cohort.

Methods: Participants ($n = 108{,}723$, 79.2% women, mean age=42.5y, $SD = 14.6$) from the French NutriNet-Santé prospective cohort (2009-2023) completed repeated 24h-dietary records including specific brands of industrial products. PA exposure was assessed using composition databases and laboratory assays. We characterised associations between time-dependent exposures to PA and risk of T2D using multivariable Cox models adjusted for known confounders.

Results: 1131 T2D cases were identified during follow-up. Exposures to the following PA were associated with a higher risk of T2D: potassium sorbate E202 (HR per a 25 mg/d increment=1.12, 1.08-1.17, $p < 0.001$), sodium nitrite E250 (HR 0.25 mg/d = 1.06, 1.00-1.12, $p = 0.04$), calcium propionate E282 (HR 25 mg/d =1.07, 1.02-1.12, $p = 0.008$), lecithins E322 (HR 100 mg/d =1.02, 1.01-1.04, $p = 0.008$), citric acid E330 (HR 500 mg/d=1.08, 1.04-1.12, $p < 0.001$), and phosphoric acid E338 (HR 50 mg/d=1.11, 1.05-1.18, $p < 0.001$).

Conclusions: This large prospective cohort revealed positive associations between T2D risk and exposures to several PA widely used in industrial foods.

Key messages:

- This large prospective cohort revealed positive associations between T2D risk and exposures to several PA widely used in industrial foods.
- If these results are confirmed, regulations governing PA's use by the food industry could be re-evaluated for better short- and long-term consumer protection.

Abstract citation ID: ckae144.979
Childhood-to-adulthood body size trajectory and cancer risk: a prospective cohort study

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Background: While excess weight in adulthood and childhood has been associated with increased cancer risk, the link between childhood-to-adulthood body size trajectories and cancer risk requires further investigation.

Methods: We used data from the UK Biobank, a prospective population-based cohort study. The main exposure was childhood-to-adulthood body size trajectory, constructed from self-reported body at age 10 (categories: thinner, average, and plumper than average) and measured body mass index (BMI) at recruitment (normal weight, overweight, and obese). Primary outcome was obesity-related cancer (13 different cancer types).

Results: During a median follow-up of 11.7 years, 21,289 participants developed obesity-related cancers. Having a larger body size at age 10 was strongly associated with being overweight or obese in adulthood. Compared to participants with average childhood to normal adulthood body size trajectory, all trajectories ending in overweight or obesity in adulthood were strongly associated with an increased risk of obesity-related cancers. The strength of the association was mostly determined by adulthood BMI, and similar patterns were observed for colorectal, endometrial, kidney, pancreatic and esophageal cancer. However, a larger body size in childhood was associated with a lower risk of postmenopausal breast cancer.

Conclusions: Although a larger body size in childhood predisposes to overweight and obesity in adulthood, it does not necessarily predispose to an increased obesity-related cancer risk if measures to maintain a healthy weight are taken in adulthood.

Key messages:

- While larger body size in childhood predisposes individuals to overweight and obesity in adulthood, maintaining a healthy weight in adulthood may help mitigate the risk of obesity-related cancers.
- Our findings highlight the importance of preventing and reducing overweight and obesity in adulthood for primary cancer prevention.

Abstract citation ID: ckae144.980
Risk Profiles of Avoidable and Unavoidable Hospitalizations: a Swedish population-based study

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Background: Older adults frequently experience multiple hospitalizations, owing to their complex health and social needs. This study aims to comprehensively characterize the risk factors associated with avoidable and unavoidable hospitalization among older adults. Specific emphasis is placed on avoidable/unavoidable hospitalization originating from chronic or acute causes.

Methods: Data on 3,166 individuals aged $\geq$60 years were obtained from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K), linked to the Swedish National Patient Register. Multistate models were used to investigate the risk profiles of participants experiencing their first and recurrent hospitalizations over 15 years. The Swedish National Board of Health and Welfare criteria were used to define avoidable/unavoidable hospitalizations.

Results: Women had a lower hazard of avoidable hospitalizations for chronic conditions as well as unavoidable hospitalizations (HR range 0.46-0.84). However, receiving informal care was associated with 88% increased hazard of avoidable hospitalizations due to chronic causes (95%CI 1.18-2.99), while receiving formal care was associated with 44% increasing hazard of avoidable hospitalization due to acute causes (95%CI1.04-1.98). Factors such as slow walking speed, multimorbidity, and polypharmacy were associated with a high risk of avoidable hospitalizations due to both acute (HR range1.27-3.03) and chronic (HR range1.63-2.54) causes.

Conclusions: Both clinical and functional factors have emerged as key predictors of avoidable hospitalization, underscoring the importance of comprehensive risk assessment and proactive healthcare management strategies to reduce the burden of hospital utilization in older adults.

Key messages:

- Targeted interventions are essential to improve healthcare outcomes among older adults at risk of avoidable hospitalizations due to chronic and acute conditions.
- The study identified predictors such as slow walking speed, multimorbidity, and polypharmacy, underscoring the need for comprehensive risk assessment to prevent avoidable hospitalization.

Abstract citation ID: ckae144.981
The effect of Covid deaths on premature mortality trends in Northern Dimension partnership countries

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Background: Potential Years Life Lost (PYLL) is an established method to measure, follow trends and compare disease burden within and between countries. Northern Dimension Partnership in Health and Social wellbeing (NDPHS) network was established in 2003 and includes the following countries: Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Russia, and Sweden. Due to the Russian invasion to Ukraine, Russia is now excluded from the collaboration.

Methods: Premature mortality is defined as a death before the age of 70 years. PYLL-rates per 100,000 population are presented in six cause of deaths categories: total mortality, external causes, vascular diseases, cancers, alcohol-related deaths and suicides. Furthermore, 2021 data included deaths due to the Covid infection. Data were obtained from Eurostat and analyses are standardized to EU standard population.

Results: PYLL-rates declined from 2003 to 2017 in all countries and in most causes of death sub-groups. The total (all causes, all countries) PYLL-rate declined between 2003 and 2017 from 7072 to 5154 in men and from 3263 to 2532 in women. However, from 2017 to 2021 the total PYLL-rate increased to 5469 in men and 2623 in women. The increase was explained by Covid mortality. When Covid deaths were excluded, a minor decrease was observed also between 2017 and 2021. In 2021, total PYLL-rates vary largely between countries: from 2804 to 12,393 in men and from 1781 to 4460 in women. Differences between countries in Covid-related and other cause-specific PYLL-rates were also large. In all countries and causes of death sub-groups PYLL-rates were markedly higher in men compared to women.

Conclusions: The number of years lost due to premature preventable mortality have declined markedly in all NDPHS countries in the last two decades. Between 2017 and 2021, some increase was observed due to the Covid-related deaths. Differences between countries in premature mortality are still large.

Key messages:

- The number of years lost due to premature preventable mortality have declined markedly in all NDPHS countries since 2003 but still, in 2021, differences between countries were large.
- Covid-related deaths caused an increase in premature mortality between 2017 and 2021.

Abstract citation ID: ckae144.982
The health of older caregivers in Spain: a matter of age or a matter of care?

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Introduction: Informal care is crucial in Spain's care system, with a rising number of caregivers aged 75 or older, yet studies on its health effects are lacking. This study aims to determine the differential impact of age and care-related variables on the health of older caregivers.

Materials and methods: This is a cross-sectional, national study with a sample of 3,870 informal caregivers from the Spanish 2020 Disability, Personal Autonomy and Dependency Survey. We performed a logistic regression where self-reported deterioration in caregiver health due to caregiving was the dependent variable and age (<75 vs. ≥ 75) was the independent variable. Caregivers' sex, educational level (primary and lower or secondary and higher), income ($<1,150$ euros per month vs. $\geq 1,150$), severe functional limitation of caregivers and care-receptors (yes or no), duration of care (< 8 years vs. ≥ 8 years), and daily hours of care were used as covariates.

Results: One in 6 caregivers was 75 or older (16,1%). Caregivers' mean age was 58.4, and care-receptors' 66.6 years. Women represented 63.0% of caregivers, and 42.8% of care-receptors. Up to 4.6% of caregivers had a severe limitation, and 43.7% of caregivers reported deterioration of their health due to caregiving. A greater perception of deterioration in caregiver health due to caregiving was associated with being 75 years or older ($\beta = 0.34$, $p = 0.009$). Covariates associated with caregivers' health deterioration were being a woman ($\beta = 0.77$, $p < 0.001$), presence of severe limitation of care receptors ($\beta = 0.58$, $p < 0.001$), and increased daily hours of care ($\beta = 0.01$, $p = 0.013$). Caregivers' severe limitation, level of education, income and years of care did not show a significant association with perception of health deterioration.

Discussion: Caregivers older than 75 years in Spain experience a key deterioration in their health associated with caregiving. This vulnerable population must be prioritized in health and social policies.

Key messages:

- One out of 6 caregivers in Spain is aged 75 years or older. Caregiving impacts greatly in their health status.
- Older caregivers is a vulnerable population that must be a priority for health and social services.

Abstract citation ID: ckae144.983
Night shift work increases the risk of irritable bowel syndrome, which is mediated by inflammation

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Background: The impact of long-term night shift work on the incidence of irritable bowel syndrome (IBS) is still largely unknown, and the underlying mechanism remains unclear. We aimed to investigate the association of night shift work with IBS risk and further explore whether low-grade inflammation mediated this relationship.

Methods: This cohort study included 239,760 participants who were in paid employment or self-employed from the UK Biobank. In-depth lifetime employment information was used to calculate duration and frequency of night shifts. Low-grade inflammation index (INFLA-score) was calculated from five circulating inflammatory biomarkers. Cox proportional hazard models were used to estimate the relationships between long-term night shift work and IBS risk, and mediation analyses were also performed.

Results: An increasing trend of IBS incidence was observed from day workers to regular night shift workers. Compared to day workers, rarely/some night shift workers (HR 1.097, 95% CI 1.007-1.195) and usual/permanent night shift workers (HR 1.213, 95% CI 1.046-1.407) had higher risk of IBS. Workers with longer duration ($\geq$3 years) (HR 1.241, 95% CI 1.073-1.436) and higher frequency of night shifts ($>$7 shifts/month) (HR 1.248, 95% CI 1.045-1.491) also showed higher IBS risks. INFLA-score significantly mediated the association of long-term night shift exposure with increased IBS risk (mediation proportion 3.6%, $P < 0.05$).

Conclusions: Long-term exposure to night shift work is associated with a higher risk of IBS, the potential underlying mechanism may be the heightened low-grade inflammation.

Key messages:

- Current night shift exposure, longer night shift duration and higher night shift frequency were significantly associated with higher risk of IBS.
- Our findings indicate that night shift work may increase the IBS risk by triggering a cascade of low-grade inflammatory processes.

Abstract citation ID: ckae144.984
Mortality related to different circulatory diseases: a multiple causes of death analysis, 2008-2022

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Background: Mortality from circulatory diseases significantly increased in 2020 compared to pre-pandemic years in many countries. However, data were mostly limited to the underlying cause of death and to the first phases of the pandemic. Analyses of any mention of a disease in death certificates (multiple causes of death approach, MCOD) are more robust to changes in coding rules/practices and to the role of COVID-19 as a competing cause of death.

Methods: Mortality records were extracted from 2008 to 2022 among residents of the Veneto Region (Northeastern Italy, 4.9

million population). Based on MCOD, age-standardized mortality rates (2013 European standard) were computed for ischemic heart diseases (IHD), cerebrovascular diseases (CVD), atrial fibrillation (AF), and hypertensive diseases (HD). The annual percent change (APC) was estimated through the pre-pandemic period (2008-2019), and change in rates during pandemic years were computed compared to 2019.

Results: Before the pandemic, rates were steeply declining for IHD (APC -5.1%; 95%CI -5.5, -4.6) and CVD (-4.0%; -4.4, -3.5); mortality related to HD reduced at a slower pace (-1.9%; -2.3, -1.4), whereas AF-related mortality was increasing (+1.0%; 0.1, 1.8). During the first year of the pandemic, the growth in mortality compared to 2019 was +26% for HD, +18% for AF, +13% for CVD and +12% for IHD. In 2021-2022, rates for CVD and IHD returned to pre-pandemic levels; rates for HD reduced with respect to 2020 but remained above the baseline; AF-related mortality was still increasing.

Conclusions: The pandemic differentially impacted mortality associated to different circulatory diseases, depending on pre-existing long-term trends (increasing for AF) and on susceptibility to severe COVID-19 disease (higher for HD). Continuous surveillance based on MCOD is warranted to properly assess changes in mortality associated to specific circulatory diseases after the end of the pandemic.

Key messages:

- Multiple causes of death analyses are warranted to assess how the pandemic affected pre-existing long term trends in cause-specific mortality.
- Mortality related to different circulatory diseases increased in 2020, but pre-pandemic trends, the extent of the increase in 2020, and further changes observed in 2021-2022 largely diverged.

Abstract citation ID: ckae144.985

The effects of hypothetical psychological interventions on alcohol use in European young adults

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Background: Low psychosocial well-being (PWB) and high emotion-driven impulsiveness (EDI) are associated with alcohol. Yet, it is unclear whether a hypothetical intervention targeting one or the other in adolescence might be more effective in reducing alcohol consumption (AC) in young adulthood. Therefore, we aimed to compare the separate causal effects of PWB and EDI in adolescence on AC in young adulthood.

Methods: We included 505 European young adults from the IDEFICS/I.Family cohort (mean age: 20.2 years; age range: 18.2-23.5 years) who did not drink alcohol at study entry. AC was operationalized as the amount of weekly consumed alcoholic beverages (mean: 4.2 drinks per week; range: 0.3-70 drinks per week). EDI was assessed using the negative urgency subscale from the UPPS-P Impulsive Behaviour Scale. PWB was assessed using the KINDLR Health-Related Quality of Life Questionnaire. Following the principles of target trial emulation, we estimated, separately, the average causal effects of PWB and EDI on AC accounting for relevant confounders and applying a semi-parametric doubly robust method (targeted maximum likelihood estimation). We stratified the results by sex and parental education.

Results: If all adolescents, hypothetically, had high levels of PWB, compared to low levels, we estimated a decrease in the average amount of alcoholic beverages in young adulthood by 0.1 drinks per week [95%-confidence interval: -2.3; 2.1]. Furthermore, if all adolescents had low levels of EDI, compared to high levels, we estimated an increase in alcoholic beverages in young adulthood by 1.5 drinks per week [0.1; 2.9]. Different effects for sex and parental education groups were found.

Conclusions: Hypothetical interventions targeting PWB in adolescents were not found to have effects on reducing AC in young adulthood. Interventions targeting EDI, however, would lead to an increase in AC. This may be due to unmeasured confounding and the missing distinction between drinking motives.

Key messages:

- We demonstrate that causal inference methods, compared to traditional ones, improve the robustness of estimated effect measures and address important sources of bias in European cohort data.
- To inform public health interventions on reducing alcohol consumption, future research should investigate different drinking motives, e.g. alleviating negative emotions or enhancing positive emotions.

Abstract citation ID: ckae144.986

Association between all-cause mortality and diabetic avoidable hospitalization among older patients

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Background: In South Korea, the prognosis of avoidable hospitalization in diabetes has not been evaluated, even though the incidence rate is considerably high compared to the Organization for Economic Co-operation and Development average. This study investigated the association between diabetic avoidable hospitalization after the diagnosis of type 2 diabetes mellitus and short- and long-term all-cause mortality.

Methods: Participants were type 2 diabetes mellitus patients aged 60 years and older and gathered through the National Health Insurance Services Senior cohort data from 2008 to 2019. The outcome measures included five-year and overall period all-cause mortality. The main independent variable was the first-year experience of diabetic avoidable hospitalization after type 2 diabetes mellitus diagnosis. Regression analysis was performed using the Cox proportional hazard model. To enhance the robustness of the study results, a sensitivity analysis and inverse probability of treatment weighting method were conducted.

Results: Among 31 222 participants, 2343 (7.5%) died within 5 years of type 2 diabetes mellitus diagnosis and 5314 (17.0%) died in the overall study period after type 2 diabetes mellitus diagnosis. Participants who experienced diabetic avoidable hospitalization one year after being diagnosed with type 2 diabetes mellitus had a higher risk of all-cause mortality compared to those who did not (Five-year: hazard ratio 1.84, 95% confidence interval 1.54-2.21; Overall period: hazard ratio 1.81, 95% confidence interval 1.60-2.06).

Conclusions: Enhancing accessibility and quality of primary care to prevent avoidable hospitalization in older patients with type 2 diabetes mellitus is necessary.

Key messages:

- Older patients with T2DM who experienced avoidable hospitalization exhibited higher all-cause mortality rates in both the short and long terms.

- Enhancing the accessibility and quality of primary care to prevent avoidable hospitalization in older patients with type 2 diabetes mellitus is necessary.

Abstract citation ID: ckae144.987
Association of CETP gene polymorphisms and haplotypes with acute heart rate response to exercise

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Background: Polymorphisms in the cholesteryl ester transfer protein (CETP) gene are known to be strongly associated with increased cardiovascular risk, primarily through their effects on the lipid profile, and consequently on atherosclerotic risk. The acute heart rate response (AHRR) to physical activity is closely related to individual cardiovascular fitness. This study aimed to investigate the effect of CETP gene polymorphisms on AHRR.
Methods: Our analysis examines the association of five single nucleotide polymorphisms (SNPs; rs1532624, rs5882, rs708272, rs7499892 and rs9989419) and their haplotypes (H) known to be associated with cardiovascular risk in the CETP gene with AHRR in 607 individuals from the Hungarian population. Individual AHRR in the present study was assessed using the YMCA 3-minute step test and was measured as the difference between resting and post-exercise heart rate, i.e. delta heart rate (ΔHR). To exclude the direct confounding effect of the CETP gene on the lipid profile, adjustments for TG and HDL-C levels were applied in the statistical analyses.
Results: Among the five SNPs examined, two showed a significant association with lower ΔHR (rs1532624-Cdom: B = -8.15, $p < 0.001$; rs708272-Gdom: B = -8.09, $p < 0.001$) and reduced the risk of adverse AHRR (rs1532624-A: OR = 2.26, $p < 0.001$; rs708272-A: OR = 2.17, $p < 0.001$). Among the ten haplotypes, two showed significant association with lower ΔHR (H3 - CAGCA: B = -6.79, $p = 0.003$; H9 - CGGCG: B = -14.79, $p = 0.014$) and lower risk of adverse AHRR (H3 - CAGCA: OR = 0.58, $p = 0.038$; H9 - CGGCG: OR = 0.05, $p = 0.008$) compared to the reference haplotype (H1 - AGACG).
Conclusions: Our study is the first to report a significant association between polymorphisms and their haplotypes in the CETP gene and AHRR. It also confirms that the effect of the CETP gene on cardiovascular risk is expressed through the acute heart rate response to physical activity, in addition to its effect on the lipid profile.
Key messages:
- Certain polymorphisms and haplotypes in the CETP gene show a significant association with AHRR.
- The CETP gene polymorphisms exert their effect on cardiovascular risk not only by altering the lipid profile, but also by modifying the heart rate response to physical activity.

6.S. Poster walk: Chronic diseases and NCDs

Abstract citation ID: ckae144.988
Association of Altitude with Mortality among Patients with Hypertension - A Cohort Study

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Background: Available evidence falls short in assessing the risk of all-cause mortality and cardiovascular disease (CVD) mortality among individuals with hypertension residing at various altitudes. This study's objective was to investigate the correlation between residential altitude and the rates of all-cause mortality and CVD mortality among hypertensive patients.
Methods: This prospective cohort study encompassed 67,275 hypertensive individuals aged 35 years and above in the year 2018. Participants were categorized into four distinct groups based on their residence altitude: those living below 500 meters, between 500 and 1499 meters, 1500 to 2500 meters, and above 2500 meters. The study spanned a mean follow-up duration of 4.78 years. The associations between residential altitude and the risks of all-cause and CVD mortality were analyzed using Cox proportional hazards regression models.
Results: Among the 67,275 hypertensive patients included in the study (mean age of 63.9 years, with 45.3% being male), 8,768 deaths were recorded, of which 5,666 were attributed to CVD. Following multivariate adjustment, when compared to the group residing at altitudes below 500 meters, the groups living at altitudes of 500-1499 meters, 1500-2500 meters, and above 2500 meters exhibited significantly elevated risks of all-cause mortality [hazard ratio, HR = 1.45 (95% CI: 1.36-1.54), 1.35 (95% CI: 1.36), and 1.41 (95% CI: 1.28-1.54), respectively] and CVD mortality [HR = 1.47 (95% CI: 1.35-1.58), 1.42 (95% CI: 1.33-1.52), and 1.46 (95% CI: 1.31-1.62), respectively]. For each 500-meter increment in altitude, the risk of all-cause and CVD mortality increased by 10% and 11%, respectively. Subgroup analyses and sensitivity assessments consistently supported this association.
Conclusions: This study's findings indicate a substantial connection between long-term residential high-altitude exposure and increased risks of all-cause mortality and CVD mortality among individuals with hypertension.
Key messages:
- Increased altitude of residence increases the risk of subsequent all-cause and CVD mortality in hypertensive patients.
- This study highlights that relevant guidelines and healthcare providers should consider altitude as an important factor in reducing the burden of hypertension and CVD.

Abstract citation ID: ckae144.989
Impact of Covid19 on chronic respiratory diseases

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Introduction: This study was created to test the hypothesis that Covid19 pandemic may have influenced the increase in chronic respiratory diseases, particularly asthma, COPD, and mixed forms. This aspect does not seem to have been investigated previously in the literature.

Methods: The study population consisted of all residents in the province of Grosseto in the two study years (2019 and 2022) aged over 17 and under 90 (n. 368,326). For each of them, the presence of chronic lung disease (OUTCOME), Covid 19 positivity (between 2019 and 2022), age, sex, and Charlson index were reported in the database. To test the effect of the study variables on the identified outcomes (asthma, COPD, and mixed forms), a single-variable statistical analysis was conducted, followed by multiple logistic regression in which, in addition to the main variable, sex, age, and Charlson index were included to adjust the results, using STATA Vers. 17.0 Be-Basic Edition

Results: Multivariate statistical analyses showed that those who had COVID between 2019 and 2022 had a 75% higher risk of taking asthma therapy than those who did not (OR 1.75, $p < 0.\ 001$); all other variables were also significantly correlated with the outcome: fewer people were taking asthma therapy in the year 2022 than in 2019 (OR 0.89, $p < 0.001$); men had a lower risk (OR 0.79, $p < 0.001$); and those who had a higher CI had a higher risk (3.43, $p < 0.001$). In the study sample, 2.69% took asthma medication in the study years.

Conclusions: The Covid19 pandemic has had a significant impact on chronic respiratory diseases, especially asthma; patients with higher age and more comorbidities are more likely to develop asthma; males have a lower risk than females, and these data do not seem to have been analyzed in the scientific literature.

Key messages:

- The Covid19 pandemic has had a significant impact on chronic respiratory diseases.
- Patients with higher age and more comorbidities are more likely to develop asthma.

Abstract citation ID: ckae144.990
Diabetes among people with intellectual disabilities vs the general population: a register study

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People with intellectual disabilities have an increased risk of diabetes mellitus (DM). They tend to develop it at earlier ages than the general population, resulting in even higher risks in younger people. However, few studies have separated Type 1 and Type 2 DM. The aim of this study was to assess prevalence of different types of DM in different age groups in relation to the general population. We categorized all people in Skåne, Sweden, as ID (service and support for people with ID and/or autism, or a diagnosis of ID or Down syndrome; $n = 14\ 716$) or general population (gPop; excluding family members of people in ID; $n = 1\ 226\ 955$). Data regarding diagnoses of Type 1 (E10 in ICD-10) and Type 2 (E11) DM were collected for 2014-2021. Age at inclusion (i.e., 2014) was considered as children (0-12 years), adolescents (13-18), young adults (19-24), adults (25-44), lower middle-age (45-54), upper middle-age (55-64), older people (65+). The overall prevalence of Type 1 DM was 2.3% in ID and 1.6% in gPop (relative risk [RR] 2.14, 95% confidence interval 1.93-2.38). In ID, the prevalence was below 2% in the youngest age groups, and then increased with age until upper middle-age, where it reached 6.0%. The risk of Type 1 DM among people with ID compared to gPop was relatively stable, with the RR ranging between 1.16 (older people) to 2.83 (adults). For Type 2 DM, the overall prevalence was 7.2% in ID and 7.8% in gPop (RR 2.00, 1.89-2.13). There was a consistent age-related increase in prevalence in ID, from 0.3% among children to 27.4% among older people. The opposite pattern was found for the risk compared to gPop, with the higher risks (RR 3.63-6.98) in the younger age groups and lower risks (RR 1.27-4.41) in the older age groups. Both types of DM were more prevalent among people with intellectual disabilities than in the general population. However, the patterns of prevalence and risk compared to the general population differed for the two types.

Key messages:

- People with intellectual disabilities have increased risk of both Type 1 and Type 2 diabetes mellitus.
- Type 1 and Type 2 diabetes mellitus displays different age patterns among people with intellectual disabilities.

Abstract citation ID: ckae144.991
Towards more effective health monitoring: a comparison of different data sources

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Background: Monitoring the prevalences of chronic diseases and their risk factors at the population level is important to support effective prevention measures, health service planning and health policy-making. The utilization of register information is cost-effective in population health monitoring, but the validity of information is important to assess. The aim of this study was to compare the information on most common chronic diseases and risk factors collected from a population-based Healthy Finland survey and national health registers.

Methods: The study population comprised of 4785 individuals aged 20 years or over from the nationally representative Healthy Finland Health Examination Survey conducted in 2023. Information on the most common chronic diseases were derived from both survey data (including measured and self-reported data) and the national registers. The prevalence in survey data were compared with prevalence in register data for those individuals who participated in the survey. Register data was examined for the previous five years and was obtained from the Care Register for Health Care and medical registers, depending on availability of data. Weighted prevalences were calculated taking into account the sampling design and non-response.

Results: For all examined risk factors and diseases, the prevalence was higher in survey data than in register data. The difference was the greatest for elevated blood pressure: the prevalence in survey data was 48.6% (95% CI 46.5, 50.7) versus 17.3% (15.6, 19.0) in register data. The prevalence of diabetes was 11.5% (10.4, 12.5) in survey and 6.9% (5.9, 7.9) in register data. For sleep apnea, the prevalence in survey data was 8.4% (7.4, 9.3) and 4.4% (3.7, 5.1) in register data.

Conclusions: Register-based information provides more reliable prevalences on diseases needing urgent treatment. Survey data brings out also previously unidentified diseases cases that do not show in registers.

Key messages:

- Register data is cost-effective in health monitoring, but surveys are needed for monitoring risk factors.
- Utilizing diverse data sources enhances getting reliable information to support decision-making.

Abstract citation ID: ckae144.992
Family function, psychological distress and burden in informal caregivers of people with dementia

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Background: Dementia presents a public health priority due to its high global prevalence, mortality, economic cost, and caregiver burden (CB). Dementia care can be stressful and may negatively influence the health of informal caregivers. This cross-sectional study aimed to identify psychological and social factors associated with subjective CB in informal home care providers of people with dementia (PwD), controlling for sociodemographic, clinical, and care-related variables.

Methods: We included 115 informal caregivers of PwD from community settings (mean age: 54.0±12.4 years; 81.7% women). Participants fulfilled the Zarit Burden Interview (ZBI-12), the Patient Health Questionnaire (PHQ-9), the Generalized Anxiety Disorder Scale (GAD-7), the Family APGAR, and the short IQCODE used to assess dementia severity. Multiple linear analyses were used to analyse the data.

Results: The mean caregiving duration was 4.8±4.8 years, and 55.7% of informal caregivers extend care for >40 hours/week. We found that a total of 52.5 % of informal caregivers experienced a high CB (ZBI-12 cut-off score: 17). Univariate analyses showed an association between depression ($\beta = 0.36$; $p < 0.001$), anxiety ($\beta = 0.52$; $p < 0.001$), family dysfunction ($\beta = 0.36$; $p < 0.001$), and CB. Regression analyses showed that CB was the most strongly associated with anxiety ($\beta = 0.51$; $p < 0.001$). This association weakened (0.47; $p < 0.01$) when family function was added to the final model ($\beta = -0.22$; $p < 0.05$). The final model explained 23.5% of the variance in CB. No associations between the caregiver's age, sex, caregiving duration, the extent of care per day, use of community care, dementia severity, and depression were identified.

Conclusions: Long-term care for people living with dementia can be very demanding. Thus, the implementation of tailored interventions to enhance family function and diminish psychological distress can mitigate level of caregiver burden. [Grant support: APVV-22-0587].

Key messages:

- Dementia caregiving is a global public health priority.
- The caregiver's burden and distress can be alleviated by the interventions focusing on family dysfunction.

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Serum homocysteine levels and mortality: a cohort study

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Background: Homocysteine, an intermediate metabolite derived from dietary methionine, plays a pivotal role in deoxyribonucleic acid expression and contribute to its antioxidant capabilities. Elevated homocysteine levels can increase the risk of cardiovascular disease (CVD), cancer, and neurological disorder; however, low levels of homocysteine are generally not considered harmful. This study evaluates the association between all levels of homocysteine-both low and high-and the risk of all-cause and cause-specific mortality in Korean adult men.

Methods: A study involving 221,356 Korean adult men categorized them into quintiles based on their homocysteine levels. The main outcomes examined were mortality from all causes, cardiovascular disease (CVD), cancer, and dementia. Hazard ratios (HRs) were determined using Cox proportional hazards models, and the dose-response relationship between homocysteine levels and mortality risk was further analyzed using a restricted cubic splines model.

Results: Compared to the reference category (Q2, 8.8-9.9 μmol/L), there was a significant increase in all-cause mortality associated with both low and high homocysteine levels after adjusting for multiple variables (Pinteraction=0.002). Furthermore, spline regression revealed a U-shaped relationship between homocysteine levels and both all-cause and CVD mortality, with an inflection point at 9.1 μmol/L. This U-shaped association was not observed in the subgroup that received vitamin supplements.

Conclusions: Among young and middle-aged Korean adult men, both low and high homocysteine levels were found to increase the risk of all-cause and CVD mortality, demonstrating a U-shaped relationship. However, this association lost statistical significance with vitamin supplementation. These findings underscore the importance of monitoring both low and high homocysteine levels as potential mortality risk factors in men and suggest a possible protective role of vitamins.

Key messages:

- Both low and high levels of homocysteine in young and middle-aged Korean men are associated with increased risks of all-cause and cardiovascular mortality, demonstrating a U-shaped relationship.
- Vitamin supplementation appears to nullify this association, suggesting a potential protective effect against mortality.

Abstract citation ID: ckae144.994
Cadmium exposure and hypertension: a systematic review and a dose-response meta-analysis

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Background: Since the shape of the relation between Cd exposure and risk of HTN has not been previously investigated, we aimed to perform a systematic review with dose-response meta-analysis in epidemiological studies.

Methods: After registration of the review in PROSPERO database (ID: CRD42022382030), we searched for eligible articles in online databases using Mesh-terms/keywords related to Cd, HTN, and BP. Eligible criteria were: adult population, assessment of exposure through Cd concentrations in blood or urine, risk estimates for HTN, observational design. Whenever possible, we computed summary odds ratio (OR) with 95% confidence interval (CI) and performed a dose-response meta-analysis on overall studies and subgroups.

Results: We eventually included 8 articles for both the qualitative and quantitative analysis published between 2006-2023 almost of cross-sectional design, 7 and 4 assessing blood and urine Cd concentrations, respectively. Comparing the highest versus lowest exposure, we found increased risk of HTN for both blood (OR = 1.12, 95% CI 0.92-1.36) and urine assessment (OR = 1.09, 95% CI 0.94-

1.28). Dose-response meta-analysis showed an almost linear increased risk for blood Cd concentrations until 1.5 μg/L above with it plateaued. In contrast when using urine concentrations for exposure assessment, risk started to increase above 0.5 μg/g creatinine.

Conclusions: Our results confirm the recent findings of non-linear relation between Cd exposure and risk of both CVD and diabetes and the subsequent need to lower Cd exposure on a public health perspective.

Key messages:
- Cadmium exposure showed positive association with risk of hypertension.
- Public health efforts should be implemented to lowed cadmium exposure to decrease CVD risk.

Abstract citation ID: ckae144.995
Patient referral pathways to leisure providers: impacts on physical activity and falls risk

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Background: Physical activity aids prevention and management of noncommunicable diseases. Yet many UK adults, particularly those with long-term health conditions, do not meet recommended activity levels. In 2021, West Suffolk Foundation Trust commissioned local leisure provider Abbeycroft to offer 24 week tailored physical activity programs as part of respiratory and frailty patient pathways.

Objectives: Evaluation of activity and outcome data for all 1670 individuals referred between January - December 2023 to determine future commissioning decisions.

Results: 256 participants had completed a 24 week pathway by the time of analysis. Compared to baseline, they demonstrated statistically significant ($p < 0.05$) self-reported improvements on the Short Warwick Edinburgh Mental Well-being Scale (median 25 to 27) amongst 68.9% of participants; and on the self-reported International Physical Activity Questionnaire 62.1% reduced time spent sitting (average 436 to 300 minutes/ week), 75% increased metabolically active minutes (average 955 to 2632 minutes/week) and the proportion of participants with a low (inactive) score decreased by 61%. Of 40 frailty patients, 87.5% lowered their self-reported Short Falls Efficacy Scale Score (14.6 to 10.4) and observed Timed Get up and Go (13.55 to 9.53 seconds), indicative of moving from a higher risk to lower falls risk ($p < 0.05$). 24 week retention exceeded 80% for all ages except 16-20 years. 17.8% of participants were >75 years.

Lessons: Both pathways have been recommissioned and new tailored pathways for Parkinson's disease, COPD and cancer are planned. This partnership working is a sustainable, integrated way to embed prevention in the community but needs time to build relationships and streamline data sharing.

Key messages:
- Hospital and community referral pathways to leisure providers significantly improve patient well-being, physical activity and falls risk.
- These pathways are affordable, adaptable across conditions and show high retention.

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Joint effect of tobacco and meat on cardiovascular disease and treatment adherence in Indian Women

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Background: Cardiovascular disease (CVD) is a leading cause of death for both men and women in India. But it is often overlooked in women. Tobacco and meat consumption are common risk factors for CVD. While individual studies have explored the link between tobacco or meat consumption and CVD, their joint effect remained understudied.

Methods: The study analyzed data from the National Family Health Survey 2019-21, of 711431 women aged 15 to 49 in India. Univariate and multivariate logistic regression were used to assess the risk of individual and joint effects of tobacco and meat consumptions on self-reported CVD prevalence. Age, BMI, education, wealth index, residency, region, religion, and alcohol were used as covariates. Additionally, interactions model was assessed. Lastly, treatment adherence for CVD was studied, considering treatment behavior, insurance, and healthcare access barriers.

Results: Cardiovascular disease prevalence was 0.72%. The risk of CVD was higher among the smokers [aOR: 2.26(1.83-2.73)] than smokeless tobacco [aOR: 1.34(1.21-1.49)] consumers. In contrast daily meat consumers showed higher risk [aOR: 1.23(1.03-1.47)] than meat non-consumers. Women who were consumers of both tobacco and meat had risk of [aOR: 1.15 (1.02 - 1.30)] CVD compared to who did not consume both tobacco and meat. Interaction was not detected between tobacco and meat consumption. CVD treatment adherence was higher among the women who possess an insurance [OR: 1.11(1.04-1.19)]. The risk of treatment non-adherence was higher among women who were aged below 40 with no education and from the poorest section of the society. Barriers for accessing health care facilities were solo attendance, provider availability, and drug access.

Conclusions: Tobacco and meat both need to be addressed to control CVD among women. Empowering women and bringing them under government insurance with an improve health care system are crucial.

Key messages:
- The joint effect of tobacco and meat consumption increased the risk of cardiovascular diseases among women. However, there was no interaction effects observed between tobacco and meat consumption.
- Healthcare facilities needs to be improved and awareness among young adults are extremely crucial for better CVD treatment management among women in India.

Abstract citation ID: ckae144.997
Patterns of overeating in middle-aged Chinese from Hong Kong

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Background: Obesity is one of the most important risk factors for non-communicable diseases worldwide. Overweightness may be attributable to a wide spectrum of overeating behaviours. However, the various types of overeating behaviors are under-studied in Asia, particularly in non-adolescent age groups. This study aims to estimate the prevalence and factors associated with various overeating patterns among middle-aged Chinese adults.

Methods: A random telephone survey was conducted in 2023 on Hong Kong Chinese adults between 35 and 59 years or age ($n = 785$). An instrument composed of modified Positive-Negative Emotional Eating (EE) Scale, Night Eating Questionnaire-Chinese (NEQ), Binge Eating Disorder Screener (BED-7), Depression Anxiety and Stress Scales (DASS-21), demographic factors, BMI and number of reported gastrointestinal (GI) conditions was used. Multiple regression analyses were conducted to test the association of demographic factors, BMI, GI conditions as well as dysphoric mood with overeating behaviors.

Results: Hong Kong Chinese middle-aged adults reported the following past-month prevalence of overeating behaviors: positive EE (26.1%), general overeating (12.4%), negative EE (9.2%), binge eating (6.0%) and night eating behavior (1.8%). Nightshift work, mental stress, being single and younger age were common risk factors for the various overeating patterns among middle-aged men. Anxiety, high/low educational levels and younger age were common risk factors among middle-aged women. Obesity was associated with binge eating and positive EE in men (OR: 1.7-4.0) and associated with negative EE and general overeating (OR:2.3-2.7) in women.

Conclusions: This study noted that binge eating, night eating, positive/negative EE, and GOB were distinct eating patterns requiring different clinical approaches. The significant association between various overeating behaviors with BMI, indicates that these individuals should be prioritized to receive healthy eating interventions.

Key messages:

- Adult overeating is not a singular behavior but represents an array of different eating patterns with different risk factors.
- Like their Western counterparts, overeating behaviors in Chinese adults are often linked to dysphoric mood, therefore treatment of obesity may require psychological counseling.

Abstract citation ID: ckae144.998

Frailty and related factors among community-dwelling older adults in Türkiye

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Background: Frailty in elderly can lead to complex challenges in the follow-up and management of health services. Ensuring comprehensive primary care services and social support can avert, reverse, or mitigate frailty in old age. We aimed to evaluate frailty and its associated factors in individuals aged $\geq$65 years.

Methods: We conducted a cross-sectional study in patients applying to primary care centres in 2024, in a city where 10% of the population is elderly. The centres were divided into clusters based on the socioeconomic status of the regions they serve, and nine were randomly selected by weight. A total of 1154 elderly who consecutively presented were included. A questionnaire including sociodemographic characteristics, Edmonton Frailty Scale, Loneliness Scale for the Elderly (LSE), Charlson Comorbidity Index (CCI), International Falls Effectiveness Scale (FES-I) was applied to the elderly.

Results: The mean age was 71.3±5.3 years, and 50.8% were male. In the study, 20.1% were frail, and 19.6% were apparently vulnerable. It was found that those aged 70-79 and $\geq$80 years, women, deceased/separated from their spouses, those with low education, those whose occupation was housewife, those earning below minimum wage, those who lived alone, non-exercisers, those taking $>$8 medications/day, and those who had $\geq$2 falls/last year were more frail. In multivariate logistic regression analysis, illiteracy (Odds ratio-OR:15.2, 95%CI:1.7-135.5), taking $>$8 medications/day (OR:4.1, 1.7-9.9), falling $\geq$2 times/last year (OR:3.4, 1.8-6.4) and $\geq$4 points on the CCI (OR:1.9, 1.0-3.4) were found to be predictors of frailty. Each score on the FES-I and LSE increased the risk of frailty by 1.08 (1.05-1.11) and 1.13 (1.08-1.17) times, respectively.

Conclusions: One in five people was found to be frail. Low education level, $>$8 medications/day, $\geq$2 falls in the last year, severity of comorbidity, fear of falling, and high levels of loneliness were found to be predictive factors for frailty.

Key messages:

- Encouraging a healthy lifestyle to prevent comorbid diseases and early interventions to avoid falls can reduce frailty.
- Providing social activities in primary care and promoting the elderly to participate in these activities can help prevent loneliness, which is a risk factor of frailty.

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Gene Expression Changes in CAD Patients Due to Smoking Using Matched Samples

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Background: Smoking is a well-known risk factor for coronary artery disease (CAD). However, the effects of smoking on gene expression in the blood of CAD patients in Hungary have not been extensively studied.

Aim: To identify differentially expressed genes associated with smoking in CAD patients.

Methods: Eleven matched samples, based on age and gender, were selected for analysis in this study. All patients were non-obese, non-alcoholic, non-diabetic, and non-hypertensive and had moderate to severe stenosis of one or more coronary arteries, confirmed by coronary angiography. Whole blood samples were collected using PAXgene tubes. Next-generation sequencing was employed using the NextSeq 500 system to generate high-throughput sequencing data for transcriptome profiling. The differentially expressed genes were analyzed using the R programming language.

Results: The median age of patients was 67 years (range: 54-75). RNA sequencing was performed on two groups: smokers and non-smokers. After quality control and filtering, gene expression data were obtained for all samples. Using DESeq2, we identified 279 differentially expressed genes with a p-value $\leq$ 0.05 and a log2 fold change $\geq$1. Of these genes, 160 were upregulated in the smokers, and 119 were downregulated compared to non-smokers. Gene ontology analysis revealed that the upregulated genes were enriched for pathways related to immune responses and activities (FDR$<$ 0.03). Specifically, upregulated genes were involved in keratinocyte differentiation, cornification, and epidermis development. The downregulated genes were enriched for cell-cardiac muscle cell adhesion (FDR= 0.004) and epithelium development (FDR= 0.001) pathways.

Conclusions: This research illuminates smoking's biological effects, aiding personalized medicine for predicting and treating smoking-related diseases.

Key messages:

- Smoking alters gene expression in CAD patients' blood, identifying 279 differentially expressed genes, revealing smoking's biological effects.
- The study underscores gene expression profiles' role in personalized medicine, predicting smoking-related disease risks and tailoring CAD patient treatments.

Abstract citation ID: ckae144.1000
Intersecting Pathways: Understanding Dementia, Hearing Loss, and Health Disparities

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Background: Dementia is a major public health concern, affecting care dependency and disability in older ages. In Europe, around 14.1 million people live with dementia, a number that is expected to increase to 15.9 million by 2040. Hearing loss (HL), followed by education, has been proposed as the most important modifiable risk factor for dementia. This study aims to investigate how sex, educational attainment and HL intersect to influence dementia-free life expectancy (DemFLE) in older adults.

Methods: Using population register data covering all Finnish residents aged 50 years or older from 2010 to 2019, we apply discrete-time multistate Markov models. Transition probabilities between states, such as HL and dementia, are estimated with multinomial logit models stratified by sex and education. Multistate life tables are used to compute sex- and education-specific DemFLE.

Results: We identified 316,361 individuals with a diagnosis of dementia and 317,115 individuals with a diagnosis of HL, representing 1,449,873 and 2,738,970 person-years respectively. 14% of individuals with HL were eventually diagnosed with dementia, compared to only 8% of individuals without HL. We hypothesise that DemFLE will vary significantly by sex and education, with additional modulation by the presence of HL. Specifically, we expect that the presence of HL will further reduce DemFLE, and that the magnitude of this reduction will be relatively greater among those with lower educational attainment.

Conclusions: This study contributes to the emerging literature on the impact of hearing loss on dementia. While both dementia and hearing loss are irreversible health conditions, hearing loss can be managed by hearing aids. If we find evidence that hearing loss is associated with different levels of risk of dementia by educational attainment, it would suggest avenues for effective interventions and public health policies to ensure more equal ageing processes in the population.

Key messages:

- Hearing loss may intersect with education and sex in the risk of dementia, providing evidence for the importance of addressing hearing health inequalities in dementia prevention efforts.
- Understanding the interactions between hearing loss, education and sex can inform policies to promote healthy ageing and reduce the burden of dementia on individuals and health systems.

Abstract citation ID: ckae144.1001
Polypharmacy and associated factors in the older population in Germany: Results Gesundheit 65+ study

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Background: Polypharmacy, the use of 5 or more medications simultaneously, favors the risk of adverse drug events, drug interactions, potentially inappropriate medication (PIM), hospitalizations, falls, frailty, and mortality. This analysis presents the prevalence of polypharmacy and associated factors in people aged 66+ years living in Germany.

Methods: Data from the nationally representative Study on Health of Older People in Germany (Gesundheit 65+) conducted between 2021-2023 by the Robert Koch Institute, was analyzed. All medicines used, prescribed and over-the-counter, in the 7 days before the interview were documented and classified into anatomical therapeutic chemical codes. Weighted prevalences and associated factors for polypharmacy are presented.

Results: 96% of the sample ($N = 1{,}474$) took at least 1 medication in the 7 days before the interview. Of these, 39% took up to 4 medications, 39% 5-9 and 22% 10+. The overall prevalence of polypharmacy was 61% (95%CI 58-65%) and was significantly higher in women (64%) than in men (59%). Polypharmacy increased with age, from 52% in the age group 66-74 (53% in men, 51% in women), 66% in the age group 75-84 (63% in men, 69% in women) to 81% in the age group 85 + (72% in men, 86% in women). People with low educational level had a polypharmacy prevalence of 63% (58% in men, 66% in women) compared to 56% (55% in men, 58% in women) in those with high educational level. Severe difficulties in organizing daily medication intake were reported in 1% of people taking up to 4 medicines, in 4% of people taking between 5-9 medicines and in 16% of people taking 10+. The prevalence of PIM increased with the number of medicines used: 13% in 1-4 medicines, 31% in 5-9 medicines, and 53% in 10+ medicines.

Conclusions: Polypharmacy was more frequent in women, older age groups and in people with low educational level. It was associated with increased difficulty in organizing medication intake and with PIM use.

Key messages:

- Polypharmacy is very common, affecting more women, older age groups, people with a low educational level and is associated with PIM use.
- Strategies to promote appropriate medication use are needed.

Abstract citation ID: ckae144.1002
Prevalence and Correlates of Cannabis Use among Cancer Survivors

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Background: Delaware has legalized marijuana use for both medical and recreational use. This study identified factors associated with cannabis use among adults with chronic relative to individuals without a history of cancer in the First State.

Methods: Combined data (2020, 2021 and 2022) from the Behavioral Risk Factor Surveillance System (BRFSS) were analyzed for Delaware. Multivariable logistic regression examined individual-level demographic, socio-economic, clinical, and behavioral predictors associated with marijuana use stratified by history of cancer.

Results: Cannabis use was lower among cancer survivors compared to individuals with no history of cancer (6.76% vs. 13.43%). However, a higher proportion of cancer survivors reported use for medical purposes (75.13% vs. 64.28%). Marijuana use prevalence decreased with age among cancer survivors. After adjusting for sex, age, educational attainment, self-reported race/ethnicity, mental health status and physical health status, current smoking (odds ratio [OR], 4.24 vs. 2.74) and binge drinking (OR, 2.45 vs. 1.75) were associated with cannabis use in both groups.

Conclusions: Adults with cancer were more likely to use marijuana. Marijuana use prevalence decreased with age. Public perceptions of marijuana is becoming more acceptable. Risk of medical conditions such as cancer increase with age. As such, older adults might also become consumers of marijuana. Clinicians should screen for marijuana use among patients and initiate open discussions with patients about the benefits and risks associated with marijuana.

Key messages:

- Need for ongoing cannabis research to better understand and inform its use for medical purposes.
- Development of high-quality standardized education materials and clinical practice guidelines for marijuana use.

7.R. Poster walk: Epidemiology 2

Abstract citation ID: ckae144.1003

Unravelling COVID-19 social mortality patterns using conditional inference tree algorithm

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Background: The COVID-19 pandemic led to significant excess mortality in 2020 in Belgium. By using microlevel cause-specific mortality data for the total Belgian adult population in 2020, three outcomes were considered in this study aiming at predicting sociodemographic (SD) and socioeconomic (SE) patterns of 1) COVID-19 specific death compared to survival; 2) all other causes of death (OCOD) compared to survival; 3) COVID-19 specific deaths compared to all OCOD.

Methods: Multivariable logistic regression models were fitted for the three outcomes. In addition, we computed conditional inference tree (CIT) algorithms, complementing regression models, to identify and rank the strongest SD and SE predictors of the three outcomes.

Results: Older people, males, people living in collectivities, first-generation migrants, and deprived SE groups experienced higher odds of dying from COVID-19 compared to survival; living in collectivities was identified by the CIT as the strongest predictor followed by age and sex. Education emerged as one of the strongest predictors for people not living in collectivities. Overall, similar patterns were observed for all OCOD except for first- and second-generation migrants having lower odds of all OCOD compared to survival; age group was identified by the CIT as the strongest predictor. Older people, males, people living in collectivities, first- and second-generation migrants, and people with lower levels of education had higher odds of COVID-19 death compared to all OCOD; living in collectivities was identified by the CIT as the strongest predictor followed by age, sex, and migration status. Education and income emerged as the strongest predictors among people not living in collectivities.

Conclusions: This study identified important SD and SE disparities in COVID-19 mortality underlying the importance of implementing preventive measures, particularly within the most vulnerable populations, in infectious disease pandemic preparedness.

Key messages:

- Living in collectivities appeared to be the strongest predictor of COVID-19 death across all age groups, highlighting the importance of preventive measures in reducing the transmission of the virus.
- Poor education plays a crucial role in predicting COVID-19 death among people not living in collectivities, highlighting the importance of targeting preventive measures towards low educated groups.

Abstract citation ID: ckae144.1004

COVID-19 vaccine effectiveness and hybrid immunity in the respiratory season of 2022-23 in Hungary

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Background: There has been an increase in COVID-19 vaccine hesitancy among the general population, accompanied by a decline in confidence that vaccines provide adequate protection. We estimated the effectiveness of the COVID-19 vaccines (CVE) and hybrid immunity against medically attended COVID-19 during the 2022-2023 respiratory season in Hungary.

Methods: We conducted a test-negative design study involving 68 GPs. Patients aged $\geq$18 years presenting with acute respiratory infection were swabbed. Cases and controls were patients testing positive and negative for SARS-CoV-2 by RT-PCR, respectively. Exposure was defined as having received at least one COVID-19 booster dose, taking into account the time since the last vaccination. CVE was estimated using logistic regression, adjusted for symptom onset date, age, chronic condition and sex.

Results: We included 247 cases and 1073 controls in the analysis. 196 samples were sequenced, and Omicron BA.5, BQ.1 and XBB.1 were the most frequent sub-variants. The CVE was 52.9% (95% CI: 15.2-73.9%), and 72.3% (95% CI: 32.0-88.7%) in the 18-59, and 60+-year-old population who received the final dose within the past year, respectively. Self-reported COVID-19 in the previous 60-365 days did not confer protection against reinfection, however, when combined with booster vaccination, it reduced the risk of COVID-19 by 63.0% (95% CI: −28.0-89.3%) and 87.6% (95% CI: 26.4-97.9%) among the 18-59 and 60+ age groups, respectively.

Conclusions: Booster vaccination within one year after the last dose confers significant protection against symptomatic infection, particularly among the elderly. Those who have previously been

infected with SARS-CoV-2 may also benefit from booster vaccinations.

Key messages:

- COVID-19 booster campaigns must be intensified, focusing mainly on the elderly.
- Providing clear guidance on the timing and target groups of vaccination and emphasising the benefits of vaccination can help to achieve higher coverage.

Abstract citation ID: ckae144.1005
Sex differences at different ages in 30-day survival of COVID-19 hospitalized patients in Israel

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Background: Sex differences in mortality from COVID-19 have been described. It is not clear to what extent sex is an independent risk factor for mortality or is confounded by co-morbidities and whether it varies by age. It is also not clear whether it is constant over time since diagnosis. We studied sex differences in 30-day mortality rates in patients hospitalized with COVID-19, after controlling for co-morbidities.

Methods: Data on patients hospitalized with COVID-19 were extracted from the majority of general hospitals in Israel during 2020 to 2022. The outcome variables were death during 30 days from onset of hospitalization. Sex differences in survival rates were assessed using Cox proportional hazards models controlling for age, heart disease, cancer, respiratory disease, diabetes and hypertension.

Results: Mortality rates in women were significantly lower than in men in all age groups. There was an approximate 5-6 year lag in the mortality rates between men and women.

Conclusions: Sex was an independent predictor of 30 day mortality from COVID-19 with women experiencing better survival. This advantage was not explained by differences in co-morbidities or the magnitude of the differences in survival by age. The sex differences in the 30-day mortality of hospitalized patients are compatible with the male dominance in the incidence rates of many infectious diseases. Poorer survival of men hospitalized for COVID-19 is likely to be part of the disease mechanism and should be explored further.

Key messages:

- Poorer survival of male COVID-19 patients seems to be part of the disease mechanism and should be explored further.
- Sex differences in disease should be included in personalized management of disease.

Abstract citation ID: ckae144.1006
Feta safe than sorry - gastroenteritis outbreak associated with contaminated cheese

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A gastroenteritis outbreak among attendees at a catered HSE event was notified. No faecal samples were obtained - all cases had recovered. An outbreak control team was convened. A retrospective cohort study hypothesised that "people who attended the HSE event and subsequently became unwell did so as a result of consuming food at the event". Epidemiological, environmental, and microbiological investigations commenced. An outbreak-specific food questionnaire was distributed. The food business was inspected, obtaining food samples. Survey responses were analysed.The attack rate was 25%. Associations were identified between illness and specific foods. Multivariable regression highlighted: feta salad ($OR = 36.22$ [95% CI 2.24-585.52] $p = 0.01$), and turkey ($OR = 12.57$ [95% CI 1.12-140.58] $p = 0.04$). Most (93%) turkey consumers had consumed feta salad. Microbiology of unopened feta cheese, sourced by the caterer from a supermarket, was positive for E coli at 1.7 x 105. The Food Safety Authority of Ireland corroborated separate illness complaints from a family consuming the product. The supermarket voluntarily withdrew the product internationally.This outbreak prompted a cross-sectoral food safety investigation. Despite no pathogen detection in a faecal samples, epidemiological evidence led to the withdrawal of contaminated feta by the supermarket, removing over 1000 units from the market, emphasising the importance of epidemiology in protecting public health.

Key messages:

- Epidemiological investigation resulted in mass contaminated cheese withdrawal internationally.
- Cross-sectoral work is important to safeguard public health.

Abstract citation ID: ckae144.1007
Paediatric iGAS Morbidity and Mortality in Ireland 2022-2023 episodic upsurge

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There was an unseasonal upsurge in invasive Group A Streptococcal (iGAS) activity in Ireland during the 2022/2023 winter period. In particular, there was an increase in the proportion of paediatric infections and a rise in the age specific death rate for those under the age of 18, from 0.10 to 1.43 per 100,000. This review aimed to describe the demographic and clinical factors associated with paediatric iGAS infection during this upsurge. All iGAS cases under the age of 16 years, notified to Public Health between 1st October and 30th June 2023, were included. A review of hospital records for each case was conducted using a standardised electronic data collection proforma. Descriptive, univariate and multivariate analysis was conducted using SPSS statistical package. There was a total of 183 cases of iGAS notified during this upsurge in Ireland. A hospital chart review was conducted for 169 of these cases, giving a response rate of 92.3%. The median age was 4 years (range 0-15,) with 44.4% (75) having a previous healthcare attendance during their illness. Varicella coinfection occurred in 27.8% (47) of cases. There was respiratory viral coinfection in 40.8% (69) of cases, and this was significantly associated with an increased risk of death RR 6.49 (95% CI 4.45 - 29.08) $p < 0.05$. A respiratory site of infection was also significantly associated with an increased risk of death RR 10.13 (95% CI 2.23 - 45.95) $p < 0.001$. However, both factors did not remain significant once adjusted for age, sex, ethnicity and deprivation index. This national review demonstrated the significant burden of paediatric iGAS morbidity and mortality during this upsurge. A significant proportion of cases, 37.9% (64) were associated with vaccine preventable illness, with respiratory viral infections and a respiratory site of infection both being significantly associated with an increased risk of death.

Key messages:

- A significant proportion of iGAS cases were associated with a vaccine preventable illness.
- A respiratory site of iGAS infection was significantly associated with an increased risk of death in paediatric cases.

Abstract citation ID: ckae144.1008
Intersectional inequality through economic difficulties and lifestyle on body mass index in Sweden

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Background: A high body mass index (BMI) is listed among the top five risk factors for the Swedish population. Socially disadvantaged groups, including women, low-educated, and immigrants, are even at higher risk of a high BMI who may also face economic constraints, physical inactivity, and poor-quality diets. However, complex intersectional transmission of inequalities to BMI remains unexplored. Therefore, we aimed to examine intersectional inequalities in BMI mediated by economic strain and lifestyle in the Swedish population.

Methods: By using the Health on Equal Terms cross-sectional surveys in 2016, 2018, 2020, and 2021 in the Swedish population (n = 44,177 inhabitants aged 24 and over), we performed an intersectional mediation analysis to estimate how inequalities across intersectional strata, by gender (women or men), education (primary, secondary or university), and migration status (Swedish native or migrant), may be sequentially transmitted through economic strain (yes or not in the last 12 months) and unhealthy lifestyle (physical inactivity or inadequate fruit/vegetables consumption) to BMI (continuous).

Results: Compared with high-educated native men, socially disadvantaged strata experienced more economic strain, which in turn led to poorer health-related lifestyles and ultimately to a higher BMI. Some strata such as high-educated women, despite having a lower BMI, still experienced more pronounced transmissions of inequality on BMI through economic difficulties.

Conclusions: Not only inequalities in BMI, but also the material and behavioral pathways underpinning the inequalities, act by intersectional patterns. Public health interventions should ensure adequate economic resources to access healthy food and physical activity across all social strata groups.

Key messages:

- Intersectional inequalities in BMI were driven by economic strain and lifestyle.
- Economic strain and poorer lifestyles were not only more prevalent in lower stratus but also more detrimental.

Abstract citation ID: ckae144.1009
Using HIS administrative data for initial assessment of comorbid patients' status (Covid-19 case)

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Background: Despite numerous published articles, most of the studies on COVID-19 focused on influence of clinical characteristics and treatments on severity. Yet, the epidemiological viewpoint was rarely discussed. Based on our experience with comorbid hospitalized COVID-19 patients, we aim to show that HIS administrative data can be used to identify individuals that are more prone to worse outcome thus improving patient management not only during pandemics.

Methods: A retrospective single-center study was conducted using archived anonymized HIS administrative data for all 8319 COVID-19 patients in the university hospital 'Saint Marina'-Varna, Bulgaria, in the period 14/06/2020-31/12/2021. Up to 7 comorbidities per patient were registered in HIS with ICD-10 codes, used for our analyses. Non-parametric tests and logistic regression were used at α=.05, 95%CI.

Results: Comorbid patients were 5741(69%), 50.3% $\geq$69y, 52% male; 1602(27.9%) died, 64% $\geq$69y, 54.4% male. Deceased were older ($p< .01$) and had more comorbidities ($p< .01$). Multimorbid patients (OR = 4.43; 3.80-5.17), male (OR = 4.72; 3.83-5.82) and older ones (OR = 1.91; 1.57-2.34) had higher odds of dying. The odds of dying increased with the number of comorbidities from OR=.635; .559-.721 for 1 to OR = 4.23; 3.28-5.46 for 7. From 4967 comorbid diseases (451 ICD-10 codes), only those from code groups A, J, N, E, I, Z were suitable for analysis. Patients with A41.9 (OR = 213.69; 52.88-863.43), J80 (OR = 52.88; 32.58-85.56), N17 (OR = 18.63; 10.24-33.87), E11.7 (OR = 4.72; 3.09-7.19), I13.2 (OR = 4.67; 3.151-6.93), Z95 (OR = 3.81; 2.74-5.31), I63 (OR = 3.56; 2.25-5.61), E66 (OR = 3.12; 2.10-4.64) died more often.

Conclusions: Our findings match the results based on EMR data: death with COVID-19 was associated with comorbidities (sepsis, acute RDS and kidney, heart and renal failure, diabetes, cerebral infarction, obesity, implants and grafts), age, gender, i.e. HIS administrative data can be used for quick assessment of comorbid patients' status.

Key messages:

- HIS administrative data can be used for quick assessment of multimorbidity and following personalized treatment is highly recommended to decrease hospital mortality not only in times of pandemic.
- Older Bulgarians have many comorbidities from ICD code groups A, J, N, E, I, Z, and are more prone to death, especially in times of pandemic. Public health measures are needed to prevent comorbidity.

Abstract citation ID: ckae144.1010
A Groundbreaking Prevalence Survey Conducted in Mauritania for Enhanced Sickle Cell Control

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Issue/Problem: Sickle cell disease is a major concern in sub-Saharan Africa, with a prevalence of 0.5 to 2% among children and a mortality rate exceeding 50% in untreated cases. However, the lack of reliable data hampers effective public health policies and resource allocation. To address this, Mauritania's Ministry of Health, with technical support from NGO Santé Sud, conducted its first prevalence survey in 2023-24. The findings will support advocacy for a national strategy on the disease and offer valuable insights for neighboring countries with similar challenges.

Description of the problem: The prevalence survey comprised 3 field missions over 7 weeks, conducted across 24 primary healthcare facilities during immunization days, in Nouakchott, Dakhlet-Nouadibou, Trarza, Ghorgol, Brakna, Guidimakha and Assaba regions: 1,642 infants (0-9 months) underwent screening for sickle cell disease, with parents' consent, and 30 paramedics and laboratory technicians were trained to administer point-of-care tests.

Results: The survey found that 9.7% of tested children were carriers of hemoglobinopathies, with 0.6% diagnosed with sickle cell disease. Lab technicians and nurses have improved knowledge about the disease and are better equipped for point-of-care testing. This initiative is expected to enhance sickle cell disease control by providing crucial data for advocacy and may lead to a nationwide newborn screening program, in line with WHO recommendations.

Lessons: This initiative highlighted the efficiency of screening infants for sickle cell disease, emphasizing the need for effective organization involving stakeholders from central to local levels. Screening during immunization days proved highly efficient in testing numerous children. Success depends on adequate human resources, technical skills, and dedicated health personnel. Additionally, having a team member to inform and counsel families, especially when test results are positive, proved crucial.

Key messages:

- A prevalence survey on sickle cell disease to generate robust data for advocacy efforts in Mauritania.
- Conducting a prevalence survey on sickle cell disease in Mauritania for a better control of the disease.

Abstract citation ID: ckae144.1011

Reactive surveillance of deaths involving a fall among the elderly in France, 2015 to March 2023

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In 2022, France launched an elderly anti-fall plan with a goal to reduce fatal falls by 20% within 5 years. In a reactive monitoring approach ensuring comparability over the period, our study aims to develop an algorithm to identify deaths involving a fall using free-text medical causes in death certificates. This will enable proactive surveillance and evaluate plan effectiveness upon completion. We devised an algorithm based on textual search of fall-related expressions in death certificates. Performance metrics were assessed by contrasting algorithm-identified deaths with those flagged by ICD-10 fall-related codes. We compared also temporal dynamics between the algorithms from 2015 to 2021. Analysis was performed by age group, gender and place of death. Additionally, our algorithm enabled estimation of fall-related death trends from 2015 to 2023. The free-text algorithm exhibited robust performance, with a sensitivity and PPV of 95% when compared to deaths coded with an ICD-10 fall-related underlying or associated cause. Temporal trends between both were highly correlated (correlation coefficient=0.99). Instead of the usual 10000 deaths for fall, we revealed about 13000 deaths linked to falls considering both primary and associated causes. Among these, approximately three-quarters were coded as the underlying cause of death in ICD-10 coding. Regarding trends, the results are preliminary and suggested an increase in mortality rates related to falls detected by the algorithm between 2015 and 2022. Our approach distinguishes falls from other competing causes that often relegate them to secondary status in the chain of morbid events leading to death. With free-text medical causes accessible within 3 to 4 months, monitoring deaths involving falls can be done at a detailed geographic level and in a more reactive way. Looking ahead, we must also consider incorporating the impact of epidemics and/or heat waves to accurately evaluate the effectiveness of the anti-fall plan.

Key messages:

- Algorithm using free-text of death certificates identify deaths involving falls.
- Our innovative approach isolates falls from other competing causes, elevating their significance in death processes.

Abstract citation ID: ckae144.1012

Infertility in the Capital Region of Denmark: Prevalence and population characteristics

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Background: Infertility is a disease defined by failure to achieve a pregnancy within 12 months of trying. Infertility has-until now-not been monitored in Denmark for three decades. The aim of this study was to assess the prevalence of infertility in persons aged 25-44 years in the Capital Region of Denmark, and to describe characteristics of persons with infertility.

Methods: Life-long experience of infertility was assessed in the Danish Capital Region Health Survey 2021, including 56,245 participants from the general population aged $\geq$16 years (response rate 54.9%). In this study, only persons aged 25-44 years who had tried to have children (thus knowing their fertility) were included, resulting in 8,203 participants. Characteristics of persons with infertility were assessed using national registries (socio-demographics) and questionnaire data (health status). Descriptive analyses and multivariate logistic regression models weighted for survey design and non-response were performed.

Results: Among persons aged 25-44 years, who had tried to have children, 20% had experienced infertility. Among those, 44% did not achieve the children they wanted. Infertility was most common among women (22%) and persons aged 35-44 years (21%). No associations were observed between infertility and ethnicity, education, and employment status. Persons with infertility were more likely to have poor physical health, have higher level of stress symptoms and have obesity compared with persons in same age group, who had tried to have children but not experienced infertility.

Conclusions: Infertility is very common in the general population and is associated with unmet fertility desires as well as poor physical health and high stress level. These findings highlight the importance of focusing on and prioritizing treatment and prevention of infertility and emphasize the need for further research in and continued monitoring of infertility.

Key messages:

- Infertility is very common in the general population and associated with unmet fertility desires and poor health highlighting the importance of prioritizing treatment and prevention of infertility.
- Continuous monitoring of infertility in the general population is essential as well as further research into risk factors and consequences of infertility.

Abstract citation ID: ckae144.1013
Surveillance of surgical site infections using artificial intelligence

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Background: Surgical site infection (SSI) is a major health problem associated with high morbidity and mortality, the consequences of which can be very serious for the patient and costly for the organisation. Surveillance systems provide insight into the incidence of SSI, the analysis of which enables improvement plans to be established to reduce it. Traditionally, surveillance systems have been based on manual medical record review for evidence of the presence of surgical infection.

Objectives: To create and validate a global SSI diagnostic algorithm and to optimise the SSI workload of Preventive Medicine services.

Methods: The study population included patients undergoing surgical procedures of rectal surgery, colon surgery, knee replacement surgery, hip replacement surgery, coronary bypass and valve surgery, at the Hospital Universitario Vinalopó in Elche ($n = 1240$). Data mining was used to collect clinical, microbiological and postoperative follow-up values from the electronic medical record. Machine Learning techniques were used to train ($n = 1054$) and validate the model ($n = 186$). Time spent on SSI surveillance of the preventive medicine service was measured.

Results: Model performance after validation was: sensitivity of 0.83 specificity of 0.87, accuracy of 0.87, an F1 score of 0.45, and an area under the curve of 0.87. The time spent by preventive medicine staff in identifying patients with surgical site infection decreased from 168 person-hours per procedure per quarter to 34 person-hours, a 77% reduction in the workload allocated to this task.

Conclusions: This project not only improves surveillance efficiency, but also optimises the workload in Preventive Medicine services very significantly.

Key messages:

- This project improves the efficiency of surgical site infection surveillance and significantly optimises the workload in preventive medicine departments.
- It makes it possible to extend surveillance to new surgical procedures and to work more intensively on preventive measures.

Abstract citation ID: ckae144.1014
Cognitive performance in breast cancer survivors: a ten-year follow-up

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Background: Cognitive impairment (CI) has been widely reported as a frequent non-fatal cancer outcome. 15% to 25% of breast cancer (BCa) patients may have CI; however long-term variations of cognitive performance during and after the cessation of the treatments remains unclear. The present study aims to describe the evolution of cognitive performance in BCa survivors that are still in follow-up at breast cancer clinic, 10 years after diagnosis.

Methods: 506 women with BCa admitted to the Portuguese Institute of Oncology, Porto, in 2012, were evaluated with the Montreal Cognitive Assessment (MoCA) before any treatment, after one, three, five, and ten years. Patients with a MoCA score $\leq$1.5 standard deviation below the mean of age- and education-specific norms were considered to have probable cognitive impairment (PCI). The 10-year follow up started in October 2022, and is still in progress (as of March, 118 were evaluated). All women that are still being followed at IPO-Porto for consultations and treatments were evaluated with MoCA assessment.

Results: PCI prevalence at the 10 years was 43.0% (95%Confidence Interval: 34.1%-52.7%). Several pathways for cognitive performance were identified throughout the 10-year follow-up: 58 women (49.2%) never had PCI at baseline assessment or during follow-up; 19 women (16.1%) had PCI at baseline, from whom 5 (4.2%) had PCI in all evaluations, 2 (1.7%) did not have PCI in any follow up evaluation, 2 (1.7%) had PCI during follow up, but not at 10 years and 3 (2.5%) had PCI again only at the 10-year follow-up; 5 women (4.2%) did not have PCI at baseline but had PCI at least once during follow-up but not at 10 years, and 24.6% had PCI for the first time at 10 years.

Conclusions: The results show a high prevalence of PCI 10 years after diagnosis with a significant part being new cases. These results highlight the need for including regular assessments of cognitive performance as a part of the clinical follow-up of BCa survivors.

Key messages:

- There is a high prevalence of cognitive deficits in breast cancer suvivors 10 years after diagnosis.
- Including cognitive evaluations of breast cancer survivors during clinical follow up are recommended.

Abstract citation ID: ckae144.1015
Assessing primary healthcare quality through avoidable hospitalizations: a systematic review

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Background: Avoidable hospitalization (AH) for ambulatory care sensitive conditions (ACSC) has been widely used as a measure of the performance of primary health care. However, the lack of a standardized definition of these conditions and the absence of conclusive evidence regarding their efficacy across diverse healthcare settings remain significant challenges. This review aims to systematically identify and synthesize the utilization of AH for ACSCs as a metric for evaluating the quality of primary healthcare (PHC) and factors influencing such quality.

Methods: We conducted a systematic search for peer-reviewed studies on 3 electronic databases. Studies that used AH for ACSCs to investigate the quality of PHC were included. The following characteristics were extracted: study design, ACSCs definition, AH rates, intervention if applicable, PHC and or patients' characteristics associated to AH rates, such as accessibility, continuity of care, demographics, socio-economic status, and comorbidities.

Results: 73 relevant articles were identified, published between 1994 and 2023 and mostly in USA. Preliminary findings based on 56 articles indicate that the majority (48.2%) employed the list of ACSCs from the AHRQ (i.e. the prevention quality indicators) (48.2%). Meanwhile, 12 studies (17.9%) used lists developed or modified by the authors, and another 7 (12.5%) adopted lists previously utilized in other research. Studies conducted in Brazil, Canada and USA employed lists issued by relevant national institutions.

Conclusions: Although preliminary, these findings highlight two main trends. Firstly, in countries where health authorities have established a standardized set of ACSCs, a notable uniformity is observed. Conversely, in the absence of such standards, variability in defining these conditions is likely to increase. This variation could hinder the comparability across different Primary Health Care (PHC) service organizations and affect the analysis of care quality.

Key messages:

- Most studies used established indicators for the measuring of primary healthcare quality.
- Diverse ACSC definitions across countries impair the generalizability of healthcare quality analysis.

Abstract citation ID: ckae144.1016

Sodium and potassium intake in adults: the Italian Health Examination Survey 2023 – CUORE Project

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Background: The WHO recommends a 30% relative reduction in mean population intake of salt/sodium within 2025 (baseline 2010) and an adequate potassium intake. To these ends, the Italian Ministry of Health (MoH) has strengthened prevention/health promotion. To update the assessment of the habitual salt and potassium intake in the Italian general adult population, national health examination surveys (HESs), funded by the MoH-CCM, are conducted within the CUORE Project.

Methods: In 2023 a new HES started including salt and potassium intake assessment by the use of 24h urine collection. Up to now, data from random samples of residents in 7 Regions (of 20 regions) distributed in North, Centre and South of Italy and aged 35-74 years are available (686 men, 702 women). Urinary excretion is assayed by a central lab. Persons with urinary volume < 500 ml and/or a urinary creatinine content referred to body weight outside the range of population mean ± 2 standard deviations are excluded.

Results: Out of 657 men and 671 women, mean level of salt per day was 9,2 g (95% CI: 9,0-9.5 g) and 7,1 g (6,9-7,3 g) respectively, and mean level of potassium per day was 2,9 g (2,8-3,0 g) and 2,4 g (2,3-2,5 g) respectively. A salt intake level lower than the WHO recommended target of 5g/day was detected in 9,5 % (5,2 -13,9 %) of men and 23,7 % (17,5 -29,9 %) of women and a potassium intake level higher than the WHO recommended target of 3510 mg/day was detected in 22,4 % (16,3 -28,6 %) of men and 9,7 % (5,4 -14,0 %) of women.

Conclusions: These preliminary data showed that in Italian adults the average salt intake is still higher and the average potassium intake is still lower than recommended. Compared to 2008, the habitual salt intake decreased of about 12% in 2018 and remained stable in 2023; the habitual potassium intake remained stable in 2008, 2018 and 2023.These results justify and encourage the ongoing preventive initiatives of MoH, facilitating the meeting of WHO targets.

Key messages:

- In Italian adults the average salt intake is still higher than recommended and the habitual salt intake decreased compared to 15 years ago.
- In Italian adults the average potassium intake is still lower than recommended and remained stable compared to 15 years ago.

Abstract citation ID: ckae144.1017

Are early emotional and behavioral problems related to subsequent asthma in preschool children?

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Background: The most common mental health problems in preschool children are emotional and behavioral problems, and one of the most common chronic inflammatory diseases in children is asthma. Most research on the relationship between emotional and behavioral problems and asthma includes school-aged children. The current study aimed to explore the association between emotional and behavioral problems during preschool years and the risk of asthma in a Swedish context.

Methods: The study was a longitudinal cohort study, with 6954 children aged 3-5 years for which data on emotional and behavioral problems through the Strengths and Difficulties Questionnaire were collected in Uppsala Region, Sweden, between 2013 and 2017. The cohort was followed with data from the National Patient Register from 2013 to 2022. Asthma was defined as having at least three diagnoses (ICD-10 codes: J45-J46) during follow-up. Unadjusted and adjusted cox regression models were used to analyze data.

Results: A total of 269 children (3.9%) had diagnosed asthma during follow-up. Preliminary results show that children with emotional symptoms, rated separately by mothers (HR: 1.62, 95% CI: 1.20-2.20), fathers (HR: 1.49, 95% CI: 1.10-2.03), and preschool teachers (HR: 1.53, 95% CI: 1.08-2.16) had increased risk of being diagnosed with asthma according to unadjusted cox-regression models. In addition, children with total emotional and behavioural problems, rated by fathers (HR: 1.51 95% CI: 1.10-2.07) were also at higher risk of being diagnosed with asthma. These associations remained significant when adjusting for background and sociodemographic factors.

Conclusions: Our findings point to the significance of a clinical awareness of the relation between emotional and behavioral problems and asthma in young children. Our findings highlight the importance of also considering somatic problems, including asthma, in children with early signs of emotional and behavioral problems.

Key messages:

- Emotional and behavioral problems in preschool children is related to being diagnosed with asthma.
- Somatic problems, as asthma, needs to be considered in children with emotional and behavioral problems.

7.S. Poster walk: Public health innovation and transformation

Abstract citation ID: ckae144.1018
Systematic review of clinical effectiveness and safety of abdominal aortic aneurysm screening in men

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Background: Abdominal aortic aneurysm (AAA) is characterised by a bulging in the aortic wall. AAA is typically asymptomatic until aneurysm rupture, which is associated with a very high mortality rate (approximately 80%). In the context of an ageing population and increasing life expectancy, innovative approaches to early detection and intervention are needed. The aim of this review was to assess the clinical effectiveness and safety of one-time ultrasound screening for AAA in men.

Methods: Systematic searches were conducted in electronic databases and grey literature sources. The primary outcomes of interest were AAA-related mortality, AAA rupture, all-cause mortality, rate of surgical repair and safety. The following study designs were included: systematic reviews, randomised controlled trials (RCTs), comparative observational studies and population-based non-comparative observational studies.

Results: Results from a systematic review by the US Preventive Services Task Force analysed 4 population-based RCTs, showing that one-time population-based screening for AAA in men (≥ 65 years) led to significant reductions in AAA-related mortality (OR = 0.65, 95% CI: 0.57 to 0.74), AAA rupture (OR = 0.61, 95% CI: 0.54 to 0.69) and emergency surgeries (OR = 0.53, 95% CI: 95% CI: 0.44 to 0.64) at 13-15 years follow-up, relative to no screening. Separate to this systematic review an additional 24 studies reported on clinical effectiveness, safety and psychosocial harms of AAA screening. Limited evidence from these studies suggest screening was associated with a reduction in AAA-related mortality and rupture but also transient psychological distress in some cases.

Conclusions: One-time ultrasound screening in men $\geq$65 years appears to offer benefits in terms of reducing AAA ruptures and AAA-related mortality, though the balance of benefits and harms requires careful consideration. In an ageing population, AAA screening could be transformative, by reducing mortality and rupture risks.

Key messages:

- One-time ultrasound screening for AAA in older men ($\geq$ 65 years) can reduce AAA-related mortality and rupture.
- In the context of an ageing population in Europe, AAA screening could be transformative, but benefits must be weighed against potential risks.

Abstract citation ID: ckae144.1019
Public health innovation labs framework development: a design study of GGD West-Brabant Netherlands

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Introduction: Innovation Labs are spaces that encourage the creation, development and testing of novel ideas within organizations. While there are known frameworks for the organization of such labs in the private sector, current literature does not reflect a framework for developing a public health Innovation Lab (PHI-Lab) specifically.The aim of this study was to develop an evidence-based framework for a PHI-Lab together with the Dutch Municipal Health Service(GGD).

Methods: Our design thinking study consisted of 4 phases: Discovering, Defining, Creating and Evaluating.An initial framework was developed based on the public and public health sectors in the literature.To create and evaluate the framework,a document analysis of the GGD was performed,and co-creation and testing sessions were organized with 11 internal and 11 external stakeholders of the GGD.

Results: The final PHI-Lab framework is composed of: rationale, enablers and barriers, environment, approach, outcomes and values. Findings emphasized practical reasons for investing in a PHI-Lab, such as the shortage of health professionals.Stakeholders highlighted that proactive leadership and innovation culture are crucial enablers for the setup of the PHI-Lab.The right space and human resources (environment) and methods including design thinking and cross-collaboration (approach) were highlighted as important strategies for overcoming innovation challenges.Despite barriers such as bureaucracy and resource limitations, tailoring solutions to organizational objectives is key to the PHI-Lab's success and sustainability, with added values of inclusiveness, adaptability and fun.

Conclusions: This study highlighted some practical additions to the initial framework that are specific to the public health setting, although mostly an adaptation from the public sector.Findings emphasize that there isn't a one-size-fits-all solution to develop a PHI-Lab.This framework has the intention of benefiting other public health organizations.

Key messages:

- The framework has the intention of benefiting other public health organizations within established networks and partnerships.
- Proactive leadership and innovation culture are crucial enablers for the organizational setup of the innovation lab.

Abstract citation ID: ckae144.1020
Driving innovation in primary healthcare though co-creation with stakeholders in Switzerland

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Issue/problem: Primary healthcare systems worldwide face challenges such as socio-demographic shifts, increasing chronic diseases, rising costs, and workforce shortages, demanding innovative solutions for the future of primary care.

Description of the problem: Addressing the complex challenges of creating a resilient primary healthcare model involves considering interdependent factors such as health policies, funding, workforce training, technology, and evolving diseases, alongside diverse stakeholder interests. To tackle this, the 'Health2040: Co-creation of a

Future Outpatient Primary Healthcare Model in Switzerland' project was launched in 2023 to develop a forward-looking model by integrating insights from various stakeholders.

Results: The project involved 40 stakeholders, including patients, researchers, healthcare professionals, policy-makers, and insurers, in two full-day workshops aimed at co-creating a vision and actionable framework for Switzerland's future primary care. The first workshop focused on developing and visualizing potential models, while the second targeted the transition to these new models and the creation of an implementation plan. These sessions were underpinned by a comprehensive literature review on emerging primary care models, providing a scientific foundation for the discussions.

Lessons: Successful co-creation requires significant preparatory efforts and innovative creativity techniques, such as Future Newspapers, brainstorming, games, and user personas. Engaging stakeholders throughout various stages of the project helped to enhance relevance. Feedback from a steering group on the workshop's concept, methodologies, and evidence synthesis was instrumental. Healthcare practitioners also contributed their insights on patient personas, ensuring the models developed were pertinent to actual healthcare practices. Stakeholder engagement process was essential for fostering innovative ideas and ensuring stakeholder buy-in for the developed solutions.

Key messages:

- Co-creation with stakeholders is a promising way to develop innovative solutions for health systems.
- Integrating stakeholder input is crucial at all the project stages, from preparation to evaluation.

Abstract citation ID: ckae144.1021
Commuting violence: Social, mental and academic consequences. Is this concept necessary to adopt?

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Introduction: Violence has emerged as a pressing public health issue due to its global impact, prompting the need to coin the term 'commuting violence' (CV). This term refers to any form of aggression experienced by students traveling from the University to other locations such as their homes or vice versa, considering that this situation could have health and academic consequences for students.

Objectives: To determine the consequences associated with CV in university students.

Methods: A cross-sectional and prospective study was conducted, including students from a Medical School in Veracruz, Mexico, from August to December 2023. Invitations to participate were extended to students of medicine, chiropractic, and radiology technology.

Results: A total of 279 participants with a mean age of 20 (±3.0) years were included. 89.6% of students perceive insecurity on their journey to the university, primarily due to the presence of suspicious individuals (93.9%); 70.6% of participants reported knowing a peer who has experienced CV, leading them to avoid certain streets (92.5%) to avoid it. Insecurity felt on the journey home from school showed a significant association (OR/CI95%) for anxiety due to JV of (7.2/3.2-16), stress due to CV of (11.1/4.74-25.9), and paranoia due to CV of (4.48/2.02-9.92). A total of 140 (50.2%) students reported experiencing CV, with the most frequent manifestations being sexual harassment (79.3%) and verbal harassment (57.8%), as well as two (1.4%) attempted rapes. Experiencing CV was positively associated with students avoiding class schedules before 8:00 a.m. (3.6/1.69-7.63) and after 6:00 p.m. (4.6/1.7-11.94), as well as absenteeism (7.37/2.51-21.67) and thoughts of dropping out (12.9/2.75-60.36) ($p < 0.05$).

Conclusions: PV is a relevant situation that exists within the well-being of students, impacting them both in anticipation and when faced with it. The concept of CV should be considered for use in future research.

Key messages:

- We propose the concept of Commuting violence as an element to be taken into account since it has been demonstrated that this situation interferes with the academic activity of the students.
- Commuting violence occurs during academic activities, so universities should propose actions to make students feel safe on their daily journey to the university.

Abstract citation ID: ckae144.1022
'Positive disruption': catalysing system-wide work on health inequalities through embedded research

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Background: This presentation explores embedded research as an innovative model for bridging system-level knowledge to action gaps in public health. Embedded researchers (ERers) are university-employed researchers co-located in public health organisations, who work to boost capacity in these organisations to tackle inequalities by better use of evidence in decision-making, evaluation and service improvement

Methods: Drawing on the initial phase of the role and wider literature, we qualitatively reflect on strengths and limits of a system-level ERer model. Most ERer evidence draws on a one-to-one organisational model. This presentation explores a different model of an ERer embedded in and working across a public health system (health services, municipality, third sector) in a large city in north England

Results: Our focus is on catalytic features of the ERer role (1) positionality: being embedded at system-level gives fuller understanding of inter-organisational connections and of the implications of emergent system changes; (2) convening: bringing together partners improves mutual awareness and builds interest in collectively pursuing research aligned to identified population health needs and public health priorities in the city; (3) co-production to build capacity: working with a new cross-organisational partnership to collectively address issues constraining opportunities to pursue system-level research; working with the municipality to explore the production/use of research to inform decisions on approaches towards health inequalities. This includes work on links between public health and other functions focused on social determinants of health

Conclusions: This presentation outlines distinctive consequences of system-level embedded research in a city-wide public health system. It critically appraises the transferability of this model of knowledge production and mobilisation at the intersection of system and cross-organisational action on health inequalities.

Key messages:

- System-level embedded research is an innovative model for helping to bridge system-level knowledge to action gaps in public health.
- The model has catalytic benefits and transferability potential, although this needs to be considered in relation to the specific context for proposed system-level embedded research.

Abstract citation ID: ckae144.1023
The NHS London Legacy and Health Equity Partnership: Evaluation of an equity lens framework

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Background: Disparities in COVID-19 vaccination uptake emphasised stark inequalities linked to ethnicity and deprivation, highlighting lack of trust and access barriers. London health leaders committed to create a community-centred legacy through the development of the NHS Legacy and Health Equity Partnership (LHEP); A novel 2-year programme aiming to close the equity gap in vaccinations, screening and access to health, focused on underserved communities, delivered in collaboration with London partners and communities. LHEP focused on 12 unique programmes with a key role of system leadership. Outputs included 15 reports, 6 conference presentations, 7 academic publications, 6 community workshops and 5 toolkits including development of an overarching LHEP framework aiming for long-term legacy.

Methods: An evaluation was designed to assess the benefits and limitations of the programme and framework through 16 semi-structured interviews and 5 focus groups delivered with key stakeholders. Ethical approval was obtained from the UKHSA Research Ethics Group. Data was coded inductively and drawn into themes.

Results: LHEP was said to add value through a) a dedicated team championing health equity and visible focus of leadership within the equity space b) fostering community engagement enabling dialogue between health systems and communities c) advocating co-production, building trust, focusing on communities in vulnerable circumstances d) programme innovation and agility d) drawing from COVID-19 lessons and disseminating learning. Interviewees stressed a legacy beyond vaccinations, establishing London as a blueprint for others.

Conclusions: Lessons were drawn into the ‘LHEP Approach for Health Equity’, a concise framework to guide partners to embed health equity, gathering 4 key tenets to ensure ‘no community is left behind’; data, evidence and learning; commitment from leaders and strong partnerships, allow for innovation and consider sustainability and communities at the centre.

Key messages:

- Legacy and Health Equity Partnership is a 2-year multistakeholder programme aiming to tackle inequalities for the diverse communities of London that built evidence and led system change.
- Evaluation stressed the impact of establishing London as a blueprint to follow and a framework to guide and support partners striving for health equity.

Abstract citation ID: ckae144.1024
Equity assessment in innovative cancer genomic interventions: the Can.Heal project

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Background: The Can.Heal project (https://canheal.eu/) aims to build a cancer and public health genomic platform. The aim of this study is to assess the extent of integration of the equity perspective in the Can.Heal project.

Methods: An Equity Guide was developed in the context of the Can.Heal project including guidance and support to implement equity-focused actions in cancer genomics. The Guide consists of a comprehensive set of 18 equity actions organized into three domains: 1) capacity-building, 2) cancer genomic research, 3) cancer genomic services. An equity self-assessment tool was developed to assess the degree of incorporation of the equity perspective in the innovative interventions included in the project, for both the definition and the execution phase. A descriptive analysis was performed.

Results: Taking into account the 3 domains, the most progress in incorporating equity perspective, in both the definition and execution phase, is observed in the “capacity building” domain (75% and 30%), followed by the “cancer genomic services” domain (43% and 11%), and the “cancer genomic research’ domain (33% and 10%). Equity actions mostly followed in both phases are: “multidisciplinary approach” (80% and 40%), “networking” (70% and 20%), and “ethics, law, and citizen engagement” (80% and 40%). The least performed actions are: “equity evidence assessment” (0% and 0%), “equity in return of genomic results” (29% and 0%), “patients’ experience’ (13% and 0%) and “diverse samples in research studies and clinical trials” (25% and 25%).

Conclusions: Equity perspective is more considered in the definition phase. More efforts should be done in the execution of equity actions in the Can.Heal project.

Key messages:

- Including a multidisciplinary approach, networking and considering ethics, law, and citizen engagement are the most followed equity actions in Can.Heal project.
- There is a need to integrate equity perspective in Can.Heal project, especially in cancer genomic research.

Abstract citation ID: ckae144.1025
Data governance challenges on smart home involving multiple research sites

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Background: The development of Ambient Assisted Living (AAL) technology has great potential for ubiquitous health monitoring through collaboration between multiple research sites, but its use poses significant challenges to data governance. This study aims to investigate data governance challenges arising when smart home data flows across different research sites.

Methods: A four-analytic-dimension method was used to identify potential data-related issues that may occur when heterogeneous smart home data moves around multiple research sites. These dimensions include data domain, stakeholders, value, and governance goal.

Results: Data domain has difficulty in categorizing new data types generated by analytical models without a specified agreement, and determining the regulations for varying levels of anonymization and privacy protection is unclear in the AAL research field. Stakeholders in the AAL project may hold have different norms and practices for data use. Although some common values may be shared, such as improving the quality of homecare, conflicts may still arise and need to be regulated by data governance. Shifting AAL data between stakeholders may reduce its value, as different stakeholders may have varying interests. For instance, removing identifiable information from data to preserve privacy may reduce its value for researchers exploring individuals' activity patterns. Governance goals are objectives for maintaining and facilitating data. While some governance goals can be widely acknowledged and shared, such as ensuring data security and privacy, conflicts may still exist over others, such as data access.

Conclusions: The big data generated by smart home technology highlights the need to develop proper data governance models to regulate data. This study's implications include a better understanding of potential data-related challenges when data flows around multiple research sites, helping policymakers set up suitable data governance models.

Key messages:

- AAL tech for health monitoring poses data governance challenges due to varying stakeholder norms and values.
- Proper data governance models need to be developed for AAL data as it remains challenges in data domain, stakeholders, value, and governance goal.

Abstract citation ID: ckae144.1026
The role of communication in the successful implementation of the Slovenian NCCP

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Issue: Cancer remains a significant global public health challenge, necessitating comprehensive strategies for effective control and management. Slovenian National Cancer Control Programme (NCCP) addresses this challenge by prioritizing proactive communication with various stakeholders engaged in cancer care planning, delivery and advocacy. The communication strategy within this programme plays a pivotal role in its successful implementation.

Description of the problem: Active engagement and collaboration among stakeholders is crucial for achieving the programme's objectives. NCCP seeks to address this challenge through various communication activities by fostering dialogue, sharing best practices, and facilitating networking opportunities among oncology professionals throughout Slovenia. Additionally, it seeks to strengthen partnerships with sectors beyond health and prioritizes engagement with cancer patient advocacy groups.

Results: The programme has devised a long-term communication strategy, guiding annual communication plans to engage stakeholders and foster support for its objectives. Notable communication activities in the period 2022-2024 include: organizing annual meetings for different oncology stakeholders including cancer patient associations, hosting impactful professional events, conducting visits to regional cancer hospitals, distributing e-newsletters and managing a NCCP website. Initial outcomes indicate strengthened communication and collaboration among professionals and institutions in the field of oncology nationwide. Engagement with patient advocacy groups has facilitated discussions on topics important to patients.

Lessons: Effective communication with diverse stakeholders is crucial for comprehensive cancer control. Collaborating across sectors enhances the impact of cancer control initiatives. Enhanced networking fosters innovation and synergy among oncology professionals, positioning Slovenia for greater success in cancer control.

Key messages:

- Slovenia's NCCP prioritizes proactive communication, fostering collaboration among stakeholders. Annual events, newsletter, and partnerships strengthen awareness and drive comprehensive cancer control.
- Long-term communication strategy of Slovenia's NCCP drives stakeholder engagement, and supports strategic objectives. This proactive approach strengthens comprehensive cancer control efforts.

Abstract citation ID: ckae144.1027
Molecular Tumor Boards impact on patients' health: towards a policy brief in the Can.Heal project

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Background: Molecular Tumor Boards (MTBs) are pivotal in the current management of oncological patients, integrating molecular diagnostics with clinical expertise to tailor precise treatments. Within the framework of EU-funded 'Building EU Cancer and Public Health Genomics platform' (Can.Heal) project that aims at streamlining genomics implementation in public health, we are developing a policy brief to promote MTBs' adoption across the EU.

Methods: A two-step approach was employed to delineate strategies for MTB implementation. Firstly, we conducted a systematic review and meta-analyses (if feasible) up to November 2023, on studies assessing the MTBs' clinical impact. Secondly, based on the results of the review, we conducted an expert consultation to identify key areas to improve MTBs implementation and impact.

Results: 48 studies were included, whose results were heterogeneous in terms of organizational aspects and number of experts involved (mean n: 6, range: 2-19). Average implementation rate of the recommendations issued by the MTB was 43.1% (3.2%-92%), with a turnaround time from testing to recommendation of 36 days (15-58). By pooling data from 12 studies ($n = 1623$), a favorable overall survival [HR = 0.63 (95% CI 0.53-0.76), I2 42.0%] was reported for patients managed in hospitals with MTBs versus not. Similar estimates were reported when the outcome was progression free survival [HR = 0.63 (95% CI 0.54-0.72), I2 = 0.0%], based on 8 studies ($n = 1106$). The subsequent expert consultation identified 5 key areas for MTB implementation: genetic data sharing, standards for results' interpretation, equitable access to MTB, optimization of the testing process, and funding and reimbursement.

Conclusions: The policy brief underscores the significant clinical benefits of MTB-recommended therapy, improving patients' outcomes. Nevertheless, addressing resource allocation and infrastructure development is essential to optimize MTB utilization and enhance patient outcomes.

Key messages:

- Our results highlight that MTBs-recommended therapy translates into tangible clinical benefits.

- More fundings and resources are needed to optimize and fully implement MTBs in clinical practice.

Abstract citation ID: ckae144.1028

Collection and use of patient-reported experience measures: approach to improve health care

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Background: Patient experience is one of the fundamental determinants of healthcare quality. There is progress in the collection of PREM in national level for hospitalized patients since 2020 in Latvia.
Aim: Analyze (2020.-2022.) in-patients Top-box rates about communication, share-decision making, patient safety and Net Promoter Score (NPS).
Methods: Project starting point was 2019. Agreement with EC, Sant'Anna School, Ministry of Health and Centre for Disease Prevention and Control of Latvia. Since 2020, the collection of PREM has been taking place regularly in hospitals (around 40% from all hospitals) and on average 20% response rate of those who agreed to participate in the survey. PREM questionnaire according to HCAHPS (Consumer Assessment of Healthcare Providers and Systems) standards, including Picker Institute patient experience questions. In line with OECD (Organization for Economic Co-operation and Development) recommendations, patient safety issues are also included. Top-box rates (most positive response) and percentiles (25th - 75th) were calculated.
Results: Totally 17019 adult (18 years and more) patient responses were analyzed with response rate 20.3% (n = 83983). 74.6% (67.5-78.2) during hospital stay doctors always explain things in a way you could understand and sufficiently involved in the decision-making process of treatment - 75.0% (70.1-81.4). During hospital stay 4.1% (n = 601) experienced patient safety incidents which were patient-reported. The most common groups were wrong patients, medication errors, incl. adverse drug reactions and falls. Hospitals achieved a NPS of 61 for 3 year period (2020.-2022.).
Conclusions: Collecting information about the patient experience may be the starting point for engaging patients and moving to more patient-centered health care. The results of these in-patient PREM data can be used to identify areas of improvement and make changes to better meet the needs and expectations of their patients.
Key messages:

- It is a good practice for the implementation of new health care quality data - patient experience reported measures at the national level.
- Feedback about the patient experience on regular basis provides insight into patient needs, preferences and values, which can help to improve the quality and safety of care.

Abstract citation ID: ckae144.1029

Methods to Handle Missing depression (PHQ-8 Score) Values among Adults in the United Arab Emirates

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Background: The UAE Healthy Future Study (UAEHFS) is one of the first large prospective cohort studies in the Gulf region which examines causes and risk factors for chronic diseases among adult UAE nationals. Missing values are often unavoidable in empirical research and can in many cases, lead to bias. The aim of this study is to estimate the percentage of depression in the UAEHFS pilot data using the eight-item Patient Health Questionnaire (PHQ-8) variables, using different statistical methods.
Methods: Five common statistical machine learning methods of handling missing values were included in this analysis. These are mode imputation, k-nearest neighbor (KNN) imputation, classification, and regression trees (CART), random forest (RF) imputations, and random sample from observed values (Sample). 100 multiple imputations were used.
Results: 487 (94.2 %) eligible participants were included in the analysis. 231 (44.7%) were included in the complete case analysis. The median age was 30 years (Interquartile-Range: 23 - 38). More males (67.8%) than females included in the analysis. The estimated percentage of depression was 8.4%, 8.9%, 9.9%, 12.5%, 15.4% and 17.9% by the mode, complete case, sample, RF, CART, and KNN respectively. In additional analyses, the estimated proportions of depression were 11.5% by the Complete Case, 11.9% by KNN, 13.2% by K-means clustering, and 13.2% by Random Forest.
Conclusions: The estimated percentage of depression in the UAEHFS pilot data varies between the applied methods of handling missing values. This shows that the problem of missing values in the variables is not negligible. Further research is needed using multiple imputations in the main UAEHFS dataset after completing recruitment.
Key messages:

- For the depression missing values, we recommend using multiple imputations not to generate data but to prevent the exclusion of observed data.
- To have a better estimate of the percentage of depression, is recommended to use different machine learning methods.

Abstract citation ID: ckae144.1030

Improving data quality by implementing an electronic medical record seems to depend on the context

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Background: The European healthcare system is reliant on its digital transformation to deal with challenges like rising expenditures or workforce shortage. The digital transformation is inevitably accompanied by the implementation of electronic medical records (EMR) and the ongoing adaptation of existing ones. Systematic reviews indicate that this process can have an impact on medical records data quality (DQ) [1]. At micro level, DQ is essential to ensure high quality of care. At macro level, sufficient DQ is a prerequisite for big data analyzability. In this field, completeness is a commonly analyzed dimension of DQ and empirical results indicate that completeness can improve but also deteriorate as a result of the described implementation or adoption of EMRs [2]. The aim of this work was to investigate the implementation of EMRs in comparable settings and to observe and discuss possible differences in the change in DQ.

Methods: Data was collected on three surgical clinics of a German academic teaching hospital before and after the implementation of an EMR. Paper-based and electronic medical records were compared. Analysis focused on ten items that were commonly documented in both record types (e.g. pain). T-tests and χ^2-tests were used to compare average completeness per record type and percentage of completeness per item.

Results: A total of $N = 659$ records was analyzed. Overall, results show a significant improvement in completeness from an average of 6.0/10 items in the paper-based record type to 7.2/10 in the EMR ($p<.05$). At clinic level, improvement rates vary from 0.9 to 1.4. At the level of the specific items, significant deteriorations are visible in certain clinics.

Conclusions: Results suggest that DQs variability is context-dependent (e.g. on the clinic's turnover rate or its patient's length of stay). Due to the unavoidable digital transformation, a detailed context and needs analysis involving all stakeholders should be carried out before any changes are made.

Key messages:

- The application of advanced analytics such as big data or AI training is reliant on the availability of high-quality datasets.
- Electronic medical records have been demonstrated to enhance data quality, but it remains uncertain how and why improvements appear to be context-dependent.

8.R. Poster walk: Infectious diseases control

Abstract citation ID: ckae144.1031
Co-administration of COVID-19 and flu vaccines in healthcare workers: results from three campaigns

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The COVID-19 pandemic, along with seasonal influenza, highlights the need for innovative public health strategies. Co-administering COVID-19 and influenza vaccines offers advantages for healthcare workers (HCWs), streamlining vaccination efforts and enhancing public health resilience. Recent evidence supports the safety and efficacy of this approach, endorsed by health authorities worldwide. However, its acceptance remains a concern. This study explores HCWs' acceptance of vaccine co-administration in three campaigns post the introduction of the anti-SARS-CoV-2 vaccine. During three consecutive flu seasons from October 2021 to January 2024, a cross-sectional study was conducted in a large Italian teaching hospital. Data for 2021/2022, 2022/2023 and 2023/2024 were compared, focusing on healthcare workers present in all datasets. McNemar's test examined changes in acceptance of co-administration. In addition, a conditional logistic regression model was designed to assess the determinants of co-administration through the vaccination campaigns in the three years. During these vaccination campaigns 7457 HCWs were observed (62.78% women, median age 43). Co-administration surged, particularly in 2022/2023, showing a 280.71% increase, consistent across all professional categories ($p < 0.001$). Controlling for gender and professional category, acceptance of coadministration showed a significant association respectively with "open days" twice a month (OR 2.9 CI [2.7; 3.6]) and a hospital vaccination clinic two days a week on weekdays (OR 4.5 CI [4.1; 5.4]) compared to conducting vaccinations at a clinic open everyday during the campaign period; no association was highlighted with age. This study investigates a facet of an increasingly significant topic, demonstrating that co-administering vaccines for SARS-CoV-2 and influenza is emerging as an effective strategy in annual vaccination campaigns, thanks to its safety and the streamlining of logistical and organizational processes.

Key messages:

- The co-administration of vaccines offers a promising strategy to enhance vaccination rates among healthcare workers.
- By identifying factors influencing acceptance, it aims to inform targeted interventions for maximizing vaccine uptake and public health resilience.

Abstract citation ID: ckae144.1032
Impact of infectious diseases associated with passenger ships on ports: a systematic review

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Background: In an enclosed ship environment, close contact between passengers and crew members is inevitable. As a result, passenger ships can be a suitable environment for the transmission of infections between people. In this context, it is essential to establish effective prevention and control measures to protect the health of passengers and crew members while ensuring that shipping minimizes its contribution to the global spread of disease. The aim of this review is to provide knowledge on the impact of infectious diseases on board large passenger ships on the port, the port community and other land-based operations to better understand the effectiveness of the prevention, mitigation and management (PMM) measures implemented, in particular ship-to-shore communication.

Methods: A systematic literature review was conducted according to the PRISMA guidelines, searching three databases and including additional articles from hand searches up to November 2023. Peer-reviewed studies of infectious disease outbreaks on large passenger ships that described ship-shore interaction, port preparedness, impact on the port community, and impact on other modes of transportation were included.

Results: A total of 555 publications were initially identified. Finally, 22 articles were included. Most studies reported on COVID-19 outbreaks on cruise ships; other communicable diseases reported were influenza, gastroenteritis and varicella. The articles highlighted the importance of comprehensive management plans and proactive risk assessment during infectious disease outbreaks.

Conclusions: Effective stakeholder collaboration, ship-to-shore communication, and coordination of medical transport, isolation, and quarantine measures are essential components of infectious disease PMM in maritime passenger shipping and ship-to-shore operations. The findings suggest that further research is needed to improve the evidence and knowledge about this important issue.

Key messages:

- Proactive risk assessment, comprehensive management plans and effective collaboration are critical to preventing, mitigating and managing infectious diseases on passenger ships.
- Overall, very little evidence of effective practices and capacities related to the interaction of passenger ships with land-based operations, stakeholders and port communities.

Abstract citation ID: ckae144.1033
Evaluating the psychological antecedents of vaccination in applicants to primary health care centers

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Background: Vaccine acceptance can be enhanced by understanding the psychological antecedents of vaccination. The 5C model identifies relevant factors: confidence, complacency, constraints, calculation, and collective responsibility. This study aims to evaluate these factors among primary health care center applicants in Ankara.

Methods: A total of 1712 individuals aged 18 and over, who visited primary health care centers, participated in the study. The face-to-face survey included questions about sociodemographic characteristics, Vaccination Psychological Antecedents Scale, individuals' attitudes and behaviors towards vaccination, and internet usage. Factors with a significance level of $p < 0.20$ from previous analyses were assessed using multivariate logistic regression analysis. The factors influencing the decision to get vaccinated without hesitation when necessary were investigated.

Results: The likelihood of getting vaccinated without hesitation in necessary situations is higher among those with higher income than expenditure(OR:1,517, 95%CI=1,094-2,104), those without chronic diseases in their family(OR:1,411, 95%CI=1,109-1,795), and those who do not actively use social media(OR:1,380, 95%CI=1,051-1,813). Additionally, an increase in the confidence score(OR:1,276, 95%CI=1,239-1,315) and the collective responsibility score (OR:1,096, 95%CI=1,058-1,134), was associated with an increased likelihood, while an increase in the calculation dimension(OR:0,928, 95%CI=0,895-0,962) was associated with a decreased likelihood.

Conclusions: Income status, presence of chronic illness in the family, active social media usage, confidence, collective responsibility, and calculation are factors influencing vaccine acceptance without hesitation. Communication strategies based on trust and collective responsibility should be developed to improve vaccine acceptance. The risk factors causing vaccine hesitancy among social media users should be investigated, and measures should be taken.

Key messages:

- Develop trust-based, collective responsibility-focused communication to boost vaccine acceptance.
- Investigate and address social media-driven vaccine hesitancy.

Abstract citation ID: ckae144.1034
Human-swine interface: is the hepatitis E virus a real risk for humans?

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Background: Hepatitis E virus (HEV) is the agent of hepatitis E, an emerging public-health infection with an increasing incidence in Europe. Due to the apparent lack of species barriers, HEV is considered a zoonotic agent, with swine as the main reservoir. This study investigated HEV prevalence in humans and domestic pigs in Northern Italy, a highly anthropic area with the highest pig farm density, to gain insights into the risk of HEV transmission from swine to humans.

Methods: A total of 508 blood samples were collected from blood donors (341 males and 167 females; from 18 to 66 years old) and from 1619 pigs in 40 different farms. Serological analyses were performed with ELISA to detect anti-HEV antibodies. In addition, 120 faecal pool samples collected from the pig farms with the highest seroprevalence and 69 salami produced in the same area were analysed to detect viral genome by Real-time PCR.

Results: In humans, HEV seroprevalence was 4.9% (CI95% 0.03-0.07); positive donors were mainly males, with seroprevalence increasing up to 12% (CI95% 0.09-0.15) in the 46-55 age group. Seroprevalence in swine was 53.00% (CI95% 0.50-0.55), with HEV detected in only 1% (CI95% 0.001-0.045) faeces. All food samples tested negative.

Conclusions: Even if the seroprevalence in pigs highlighted that HEV was actively circulating in the farms, the low seroprevalence in humans, the scarce HEV detection in swine faeces, and the absence in food products suggested that HEV transmission via faecal-oral or foodborne routes is unlikely, probably due to the implementation of severe biosecurity measures and high standards of hygiene in swine farms, and the continuous assessment of the critical points in the pig supply chain (from farm to fork). The serological surveillance of humans and the monitoring of farmed animals are needed to support the competent authorities in timely managing public health issues, improving human health and veterinary safety from a One Health perspective.

Key messages:

- In the human-swine interface is important to monitor HEV presence.
- The One Health approach is essential to control zoonotic diseases.

Abstract citation ID: ckae144.1035
Aedes aegypti surveillance under the International Health Regulations - experience at Madeira Island

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Problem: Aedes aegypti was first identified on Madeira Island in 2005, persisting since then. This mosquito transmits various haemorrhagic diseases and caused a Dengue outbreak in 2012-2013. The island has two seaports and one airport that may serve as points of entry or dissemination of these diseases, potentially leading to a new outbreak or international disease spread. We aimed to assess Ae. aegypti presence at the island's seaports and airport during 2023.

Description: Data was collected from 52 entomological panels produced by the Regional Health Department throughout 2023. This data is publicly available on the Institute of Health Administration's website. Ovitraps capture eggs, larvae, and pupae of Ae. aegypti, and BGtraps capture adult mosquitos. Positivity refers to the proportion of times an ovitrap recorded eggs in the entomological cycle.

Results: In 2023, there were 204 active ovitraps at the island (17 at the airport, 9 at Funchal's seaport 8 at Caniçal's seaport) and 24 BGtraps (2 at the airport, 2 at Funchal's port and 1 at Caniçal's port). Weekly reports revealed a median of 2243 (0-14448) eggs and 14 (0-234) mosquitos in all traps. Positivity was higher in the second semester. On average, ovitraps' positivity at the airport (avg 6.4%; 0-59%) and at Caniçal's port (avg 2.8%; 0-47%) were lower than the positivity of the island (avg 14.8%). Funchal's port had a higher positivity than the island (avg 15.9%; 0-67%). Per-ovitrap, the average weekly positivity rate rose by 15%, 10% and 5% at Caniçal's port, airport and Funchal's port, respectively, compared to 2012-2022.

Lessons: Ae. aegypti's eggs prevalence increased in 2023. The high positivity of eggs suggests an increased likelihood of mosquitos nearby. The detection of immature forms triggers actions to prospect the surrounding area for identification and elimination of breeding grounds, as well as the placement of salt in water accumulation areas. This is particularly important at high-traffic areas such as seaports and airports.

Key messages:

- The increase in Ae. aegypti egg positivity in 2023 on Madeira Island suggests a higher risk of disease transmission.
- It is essential to prioritize vector control measures at seaports and the airport in Madeira Island.

Abstract citation ID: ckae144.1036
The Contrasting Risk Communication Strategies of European Leaders during the COVID-19 Crisis

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COVID-19 brought the role of leaders under intense scrutiny; their communication and framing of the crisis was crucial during the initial period of uncertainty. UK prime minister Boris Johnson and German chancellor Angela Merkel, managed and communicated the first wave of the crisis (March-June 2020) very differently. The clear contrast between pandemic response in two countries, with similar population sizes, wealth, and exposure to COVID-19, provides a lens through which to reflect on the different risk communication strategies utilized by both leaders. Following a grounded theory approach, the communication strategies of both leaders were examined. Transcripts from 31 press conferences from the initial announcement of COVID-19 to the end of the first wave were examined, and key themes identified. The analysis was framed using the CDC's Crisis and Emergency Risk Communication lifecycle model, allowing for a structured comparison across different phases of the crisis. The findings were examined through the broader socio-political context of their communication. Similar themes were present in both leaders' speeches, this included a focus on national identity; national strategy; health situation and social solidarity. However, they did so in markedly different ways. Merkel's consistent, evidence-based communication strategy was more closely aligned with risk communication best practice compared to Johnson's initial populist approach, which ultimately required a significant mid-crisis adjustment. Their different approaches also reflect their personas as political figures.

Key messages:

- The consistent, science-based communication strategies exemplified by Merkel closely followed risk communication best practice and is likely enhanced public compliance and trust during the crisis.
- These finding demonstrate the importance of incorporating a political lens to understand leaders approaches to risk communication and in public health research more broadly.

Abstract citation ID: ckae144.1037
From hesitancy to decision: shifts from intentions to uptake of Influenza and COVID-19 vaccines

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Background: Vaccine hesitancy is context-related and risks coverage. In a context of growing hesitancy, this study aims to characterize and identify factors underlying shifts in Influenza and COVID-19 vaccines intention and uptake.

Methods: Questionnaires were administered to a random sample of the 60+ years old Portuguese population ($n = 1400$), before (Q1) and at the end of the campaign (Q2). Sociodemographic, clinical data and intention to Influenza/COVID-19 vaccine uptake, using a Likert-scale (0-2: refusal; 3-7: hesitancy; 8-10: acceptance), were assessed on Q1. On Q2, self-reported vaccination status and motives. A logistic regression was performed to identify underlying factors.

Results: COVID-19 vaccine: 26.2% of those reporting acceptance went for non-uptake (214/818), stating low susceptibility/severity and fear of side effects. Factors associated were not having chronic disease (OR 2.07, $p<.05$) and age 60-64 (OR 4.16, $p<.05$). 25.5% of those who refuse went for vaccine uptake (27/106), stating self-initiative. Age 65 + (OR 43.82, $p<.05$) was associated with the shift; 56.4% of the hesitant individuals went for non-uptake (154/273). Higher education associates with non-uptake (OR 0.53, $p<.05$). Influenza vaccine: 11.5% of reported acceptance went for non-uptake (100/873), stating low susceptibility/severity. Associated factors were age 60-64 (OR 5.85, $p<.05$), not having chronic diseases (OR 2.64, $p<.05$) and living alone (OR 2.34, $p<.05$). 23.4% of those refusing decided for vaccine uptake (29/124), stating self-initiative/risk awareness. Associated factor was age 60-64 (OR 6.41, $p<.05$). 69.5% of hesitancy went for uptake (139/200). Chronic disease associates with non-uptake (OR 0.26, $p<.05$).

Conclusions: Intention is a good predictor but not decisive for uptake. This research provides better understanding of shifts in intention versus vaccine uptake, as well as factors and motives for hesitancy, allowing more robust interventions ahead of a vaccination campaign.

Key messages:

- For the Influenza vaccine, 13% of individuals reporting acceptance or refusal changed their mind. From the group reporting hesitancy, 70% decided for vaccine uptake.

- For the COVID-19 vaccine, 26% of individuals reporting acceptance or refusal changed their mind. From the group reporting hesitancy, 56% decided for non-vaccine uptake.

Abstract citation ID: ckae144.1038
Seroprevalence and associated factors of toxoplasmosis in female children and adolescents in Germany

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Background: Toxoplasmosis is a parasitic disease that causes a high burden of disease worldwide. Infections occur mainly through the consumption of undercooked meat or the ingestion of contaminated cat feces from the environment. In Germany, seroprevalence in adults is exceptionally high by international comparison (50%), which could be due to the frequent consumption of raw pork products. Comparable analyses for children and adolescents are missing but are needed to estimate the public health problem and to suggest countermeasures.

Methods: As part of the second wave of the representative German Health Interview and Examination Survey for Children and Adolescents (2014-2017), serum of 1,453 girls aged 3 to 17 years was tested for the presence of T. gondii IgG antibodies using enzyme linked fluorescence assay (ELFA). We calculated overall and stratified seroprevalence and used multivariable logistic regression models based on Directed Acyclic Graphs to identify associated factors. Adjusted odds ratios (aOR) with 95% confidence intervals (CI) are being reported.

Results: Overall, 94 out of 1,453 girls tested positive for T. gondii resulting in a seroprevalence of 6.3% (95% CI: 4.7-8.0). With each year of life, the chance of being seropositive increased significantly by 1.2 (95% CI 1.1-1.3). A low social status (aOr 2.7; 95% CI 1.3-5.9) and living in rural (aOR 2.6; 95% CI 1.1-5.7) or urban (aOR 2.2; 95% CI 1.1-4.4) areas were found to be associated with seropositivity. No regional distribution patterns or differences between vegetarians and non-vegetarians were seen.

Conclusions: Six out of 100 girls become infected with T. gondii during the first 18 years of life. Independent risk factors identified in our study have also been associated with seropositivity in other countries. Meat consumption appears to have a reduced impact on the risk of infection in children and adolescents compared to adults, calling for different prevention strategies in this population.

Key messages:
- Toxoplasmosis causes a high infection pressure for girls and young women in Germany.
- Transmission pathways might differ between age groups with more environmentally associated infections in children and adolescents.

Abstract citation ID: ckae144.1039
Risk factors for COVID-19 among healthcare workers: a hospital-based cohort study in Portugal

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Background: Healthcare workers (HCWs) have an increased risk of transmitting SARS-CoV-2 infection to frail patients and are also at higher risk of exposure. Hence, it is essential to understand the risk factors for infection of HCWs to limit adverse events occurring in healthcare facilities. This study aimed to identify risk factors for symptomatic COVID-19 infection among HCWs in the hospital context.

Methods: We used data from a hospital-based cohort study followed between December 2020 and January 2022 in three central Portuguese hospitals. Following the study protocol, RT-PCR testing was performed whenever an HCW reported any symptom compatible with COVID-19. Characteristics of infected (at least one positive RT-PCR with symptoms) versus non-infected HCW were compared using the Chi-square test.

Results: A total of 3034 HCWs were followed during 13 months and 533 had a positive test for SARS-CoV-2. A higher percentage ($>$ 40 %) of infections were in individuals without a primary vaccination scheme. Other than age, no differences were found regarding individual characteristics: infected HCWs had a higher percentage of individuals aged 18 to 50 years old compared to the non-infected HCWs (74.7 % versus 66.2 %, $p < 0.001$). Regarding work functions, no differences were found for self-report of working in direct contact with COVID-19 patients. Additionally, the percentage of HCWs who declared to perform tracheal intubation procedures was similar in infected versus non-infected HCWs (6.2 % versus 8.9 %, $p = 0.080$).

Conclusions: Infected HCWs were younger than the non-infected. HCWs working in direct contact with patients or performing tracheal intubations didn't exhibits increased rates of infection suggesting the success of preventive measures and other standard procedures in limiting infection transmission in healthcare facilities.

Key messages:
- HCWs working in direct contact with COVID-19 patients or performing tracheal intubations were not the most infected personnel.
- Preventive measures and other standard procedures were successful in limiting COVID-19 infection transmission in healthcare facilities.

Abstract citation ID: ckae144.1040
Home-based nursing care for clients carrying multidrug-resistant organisms: a focus group study

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Background: The growing population of vulnerable clients receiving home-based nursing care, combined with the worldwide increase in the prevalence of multidrug-resistant organisms (MDROs), poses a new burden on nursing staff. This study aimed to gain insight into the experiences, attitudes, perceptions, dilemmas in daily practice and needs of nursing staff providing home-based nursing care for clients carrying MDROs.

Methods: Seven focus group discussions with home-based nursing staff (N = 34) were performed in the Netherlands between April and July 2022, using a semi-structured, open-ended topic list based on the I-change model and seven domains synthesized by Flottorp et al. Data were analysed using thematic analysis.

Results: Home-based nursing staff often considered infection prevention and control recommendations inconsistent, unclear or inapplicable in daily practice. Although participants acknowledged the importance of these precaution measures, their proportionality was sometimes questioned. Participants indicated to be influenced by perceptions, knowledge and behaviour of their colleagues and clients. In addition, they frequently experienced untimely, incomplete or inconspicuous information transfers about clients carrying MDROs. Concerns were expressed that clients were often insufficiently informed, debating the roles and responsibilities of involved healthcare professionals in providing and exchanging information. Finally, participants elaborated on the effect of the covid-19 pandemic and expressed the need for organisational support in providing education and sufficient resources regarding MDROs.

Conclusions: Insights of this study have aided in aligning upcoming MDRO guidelines for home-based nursing care in the Netherlands. Organisational support in expanding knowledge and providing sufficient resources is essential and clarity about roles and responsibilities of involved healthcare professionals regarding information transfer and informing patients is needed.

Key messages:

- Expanding knowledge, sufficient resources and adequate information transfer about MDRO carriage are essential to ultimately prevent transmission and spread of MDROs.
- The specific context of home-based nursing care for clients carrying MDROs should be acknowledged in MDRO guidelines.

Abstract citation ID: ckae144.1041

A mixed method approach to evaluate a vaccine hesitancy assessment among parents in Dutch language

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Vaccine hesitancy (VH), as a driver for falling vaccine uptake rates, is a significant public health challenge. It is important to monitor this phenomenon and compare results in a unambiguous manner. However, in Dutch and possibly other languages, there is no unequivocal translation for VH. Therefore, we aimed to develop and cross culturally validate a method to assess VH in a simple and self-reported manner, using five differently worded alternatives reflecting 'doubt', 'reluctance', 'uncertainty', 'concerned' and 'indecision'. We designed a mixed method study with a quantitative and qualitative evaluation. In the quantitative evaluation, parents were asked to rate experienced vaccine hesitancy in their decision about vaccinations on a 10-item Likert scale, using the five differently worded alternatives. We analyzed internal consistency with Cronbach's alpha and correlation with the short parental attitudes about childhood vaccination (PACV-5) scale. A total of 532 parents participated in the survey. We found that the five worded alternatives measured the same construct, indicated by a Cronbach's alpha of 0.95. The wording resembling 'doubt' had the highest correlation with the PACV score (coefficient -0.525, $p < 0.001$). We subsequently conducted cognitive interviews with 12 parents with lower education levels to evaluate their interpretation of the five wording alternatives and the comprehensibility of the question itself. The wordings resembling 'doubt' and 'uncertainty' were viewed as most clear and reflecting VH, although some participants had a negative association with 'uncertainty'. Overall, the question was well understood and minor suggestions were provided to improve comprehensibility. Based on the integrated results of both studies, we conclude that using the word resembling 'doubt' in Dutch language is the best instrument to assess VH. We encourage uniform translation of vaccine hesitancy in other languages to enable comparison of results across countries.

Key messages:

- Uniform translation of the term vaccine hesitancy in other language is important to enable comparison of results across countries.
- In Dutch language, the word resembling 'doubt' is the best instrument to assess vaccine hesitancy.

8.S. Poster walk: Digital health and Artificial Intelligence

Abstract citation ID: ckae144.1042

Treatment of kidney disease: an analytical decision model at a Swiss university hospital

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Background: An observational hospital-based cohort study, where the kidney disease staging is identified as a digital marker, and the association between the standardised staging of Kidney Disease (KD) and the outcomes is assessed along the treatment process.

Methods: The clinical and administrative data for all patients are stored in the Clinical Data Warehouse. A specific digital marker for an exact KD staging is applied. Three retrospective patient cohorts for exact and imprecise staging and missing diagnosis are defined and compared regarding the in-hospital mortality, all-cause mortality and disease progression.

Results: In total, 83146 hospitalisations of 40421 patients with KD, treated in 2014-2023 (2016-2023 will be updated) were identified; the number of the first hospitalisations with exact staging was 847

(2%), unprecise 29934 (72%) and missing diagnosis (26%). The demographic and baseline factors distribution between groups was tested with no association (chi-squared test statistic). The median survival time with a 95% CI was 7.94 (7.66, 8.81) years for the exact and 7.47 (7.42, 7.53) for the imprecise staging group. A log-rank and loglikelihood tests indicated a significant difference in survival between the groups, $p < 0.0001$. The Cox regression model shows a statistically significant difference in Hazard Ratio; KD staging, age, Elixhauser van Walraven index, treatment, nephrotoxic medication, contrast agent application, and AKI were identified as the significant covariates, C-statistic 0.730, Likelihood ratio test, Wald test, log-rank score on 42 df, $p < 2e\text{-}16$. ANOVA analysis confirmed a significant difference in cost distribution between the groups. An economic decision model proposal integrates the findings, combining a profile-level Markov cohort with a Discreet Time-To-Event Simulation DICE.

Conclusions: The study demonstrates a better outcome regarding all-cause mortality, in-hospital mortality, and costs if a standardised KD staging was applied.

Key messages:

- Intuition (clinical judgement) and standardised kidney disease staging perform differently regarding clinical outcomes and costs.
- The study demonstrates a better outcome regarding all-cause mortality, in-hospital mortality, and costs if a standardised KD staging was applied.

Abstract citation ID: ckae144.1043
Usability Insights from the BUMPER Cancer Prevention App Pilot Study: A Mixed-Methods Approach

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Introduction: As the second leading cause of death in the EU, cancer is expected to see a 55% rise in new cases globally over the next two decades. The European Code Against Cancer (ECAC) and the EU's Beating Cancer Plan (EBCP) provide resources for understanding and preventing cancer. The BUMPER project aims to develop a cancer prevention App to make the ECAC more accessible to the public.

Objectives: Understand the factors influencing the use of a cancer prevention app among users with different digital health literacy levels and to evaluate the app's usability.

Methods: Mixed-methods approach was used to gather user feedback. FGDs explored user perspectives on app usage, while a cross-sectional survey assessed usability through task completion on an initial app wireframe. The pilot was conducted across seven EU countries in late 2023.

Results: 77 participants participated in the pilots and FGDs across seven EU countries. The average task completion time was approximately 79 seconds. Participants rated their confidence to complete the tasks at 3.96 and difficulty at 2.28 on a scale of 1 to 5. The average task pass rate was 92.11%. Qualitative findings highlighted the need for evidence-based content, user-friendly design, language accessibility, offline functionality, and data security. Participants also stressed the importance of clear instructions, regular updates, and robust tracking features. Despite some challenges, the app was generally well-received, with users appreciating its educational potential and tracking capabilities.

Conclusions: The BUMPER project's pilot study demonstrated the cancer prevention App being developed as a potential tool for cancer education and awareness. Despite navigational and language challenges, the app was favorably received by a diverse user base, underscoring the need for ongoing improvements in user guidance, comprehension, and functionality to enhance accessibility.

Key messages:

- BUMPER project's cancer prevention app shows promise in pilot study, enhancing cancer education and awareness.
- Despite challenges, the app was well-received, highlighting the need for ongoing improvements to enhance accessibility.

Abstract citation ID: ckae144.1044
The New Healthcare: AI-Driven Population Stratification, Proactive Medicine, and Predictive Analysis

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Background: The Covid-19 pandemic has highlighted structural and functional weakness of local health services. Italy carried out its reorganization with DM 77/2022, financed by Mission 6 PNRR of the CE. The model adopted aims to move from a reactive to proactive medicine, to be implemented close to the places where citizens live. The priority objective is to know data on the progress of chronic pathologies and non self-sufficiency using advanced digitalization tools.

Methods: 14 types of administrative data from 2022 to 2023, concerning 180000 (ISTAT data) people in the Lecce Social Health District (DSS Lecce), were analyzed with AI (Chat GPT).

Results: Thanks to algorithms, 6 categories of clinical complexity were identified. The analysis showed that the population assisted is 198696, for temporary presences, with the most represented age group being 50-55 years. Births decreased by 36% in 10 years (from 1681 to 1076), with 2197 deaths in 2023. 42,38% of the population (average age 38,58 years) did not use healthcare resources, while 57,62% (average age 54,19 years) required them. 48646 patients have cardiovascular disease, but only 10% with heart failure were actively monitored. 25047 have metabolic disease, 11195 are diabetics, 5929 have chronic respiratory diseases, 8167 chronic neurological diseases and 907 are cancer patients. Increasing age leads to polymorbidity and show signs of social, economic and health fragility.

Conclusions: the strategic objective of the Lecce DSS was management of chronicity according to specific care pathways, PDTA. Create healthcare teams capable of being case managers depending on the level of complexity (family doctors, nurses, etc). With the 2024 data there will be 3 consecutive years of analysis which will allow the development of predictive systems to identify population clusters at risk of increasing complexity and in need of proactive medical interventions, use of telemedicine with the support of a Territorial Operations Center.

Key messages:

- AI-driven stratification supports personalized health plans to improve healthcare delivery, patient outcomes, and optimize resource allocation.
- A new model of Population Health Management supported by Artificial Intelligence.

Abstract citation ID: ckae144.1045
Next-generation public health surveillance: extreme heat event prediction and monitoring system

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Background: Extreme Heat Events (EHEs) are a growing threat to public health. The increase in the frequency of occurrence of once rarer EHEs and the rise in their average temperatures are dangerously drastic for public health outcomes. Despite this, existing public health surveillance (PHS) systems fail to leverage IoT and AI technologies to facilitate real-time, continuous monitoring of EHE indicators and its associated health risks. This study closes this gap by proposing a comprehensive PHS system that can, in real-time monitor and predict EHE indicators to provide timely alerts to public health authorities.

Methods: The EHE PHS system collects EHE detection metrics, including indoor temperature and humidity levels, from IoT sensors and thermostats to map them across Canada, primarily focusing on low-income communities. The system also integrates historical climate data (surface temperature, humidity, wind speed and direction, and air quality indicators) from Environment Canada. The system uses the data to train initial prediction models including CNN, LSTM and GNN. The validated model will be integrated into the system, enabling real-time EHE prediction. The output will be displayed in user-friendly visualizations on the EHE PHS system's dashboard capabilities.

Results: The system allows for the analysis of real-time data through dashboards and provides alerts when certain indicators (e.g. excessive or prolonged heat) detrimental to public health outcomes are detected. The alerts enable valuable lead time for public health authorities to implement proactive measures, such as issuing heat advisories and deploying resources to vulnerable areas.

Conclusions: The EHE PHS system will serve as a blueprint for global public health researchers, utilizing IoT and AI technologies for proactive crisis prevention. This knowledge will inform the development of heat-resilient policies and set a precedent for global public health crisis prevention.

Key messages:

- The proposed EHE PHS system uses AI and IoT technologies, to enhance EHE prediction, risk identification, and real-time monitoring for effective public health interventions.
- By integrating advanced predictive models and environmental data, the system facilitates early detection of EHE risk, which can significantly mitigate the health impact on vulnerable populations.

Abstract citation ID: ckae144.1046
Safety in Teletriage by Nurses and Physicians in the US and Israel - a Tale of 2 Systems

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Background: The safety of telemedicine in general and telephone triage (teletriage), in particular, have been a focus of concern since the 1970s. Inadequate telehealth systems may compromise patient safety.

Objectives: Our aim was to explore ways that developed teletriage systems produce safe outcomes by examining key system components and questioning long-held assumptions.

Methods: We examined safety by performing a narrative review of the literature using key terms concerning patient safety in teletriage. In addition, we conducted system analysis of 2 typical formal systems, physician led and nurse led, in Israel and the United States, respectively, and evaluated those systems' respective approaches to safety. Additionally, we conducted in-depth interviews with representative physicians and 1 nurse using a qualitative approach.

Results: The review of literature indicated that research on various aspects of telehealth and teletriage safety is still sparse and of variable quality, producing conflicting and inconsistent results. The interviews with health care professionals demonstrated several challenges encountered during teletriage, mainly making diagnosis from a distance, treating unfamiliar patients, a stressful atmosphere, working alone, and technological difficulties. However, they reported using several measures that help them make accurate diagnoses and reasonable decisions, thus keeping patient safety, such as using their expertise and intuition, using structured protocols, and considering non-medical factors and patient preferences (Shared Decision-Making).

Conclusions: Remote encounters about acute, worrisome symptoms are time sensitive, requiring decision-making under conditions of uncertainty and urgency. Patient safety and safe professional practice are extremely important in the field of teletriage, which has a high potential for error. There is a need identifying safe systems to guide developers and clinicians about needed improvements.

Key messages:

- Patient safety and safe professional practice are extremely important in the field of teletriage.
- We need to guide developers and clinicians about needed improvements in teletriage systems.

Abstract citation ID: ckae144.1047
AAL for independent aging: Practical guidelines for smart living environment development

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Background: Active Assisted Living (AAL) refers to the use of IoT devices to support quality of life, independence, and healthier living for care recipients. AAL-enabled smart homes have particular potential to help older adults reach their health and independent living goals, but there is a dearth of guidance on practical implementation. Additionally, different technology companies have each developed their own practices, leading to confusion and inconsistency. The objective of this work is to explore requirements for use of AAL in smart living environments for older adults, providing suggestions for best practice for AAL use considering their unique circumstances.

Methods: A review of academic and grey literature was performed to identify existing best practices and gaps for development of AAL-enabled environments. A technology review was also performed on 156 unique devices to understand the AAL tech ecosystem.

Results: Little guidance exists regarding designing smart living environments for older adults, though it exists for the two elements separately. The distinguishing elements are how AAL may connect the older adult to their care network, how the home may accommodate changing health needs, and older adults' unique vulnerability. Furthermore, a large issue is a lack of interoperability and communication, which must be addressed in order to make AAL systems as low-effort and aligned with older adults' preferences as possible.

Conclusions: As both tech and older adults' needs evolve, key requirements of AAL-enabled smart living environments are robust data sharing pathways, planning for modifiability, and protecting the privacy of residents. The findings of this work will be used to identify opportunities for AAL standards development.

Key messages:

- AAL-enabled smart homes must be able to accommodate an older adults' shifting care needs and preferences over time.
- It is necessary to establish how AAL smart home data may be shared with and used by care partners and providers.

Abstract citation ID: ckae144.1048
Trustworthiness of EHRs: Key Factors from a User-Centered Study in Germany

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Background: The integration of digital technologies, particularly Electronic Health Records (EHRs), promises substantial improvements in patient care and cost reductions. However, the success of EHRs depends heavily on patient trust and usage, which are influenced by their control over data visibility, storage, and sharing. Identifying the factors that enhance the perceived trustworthiness of EHRs is essential for increasing their reliability and acceptance in healthcare settings.

Methods: Participants ($N = 30$) first interacted with an interactive EHR prototype, then evaluated its trustworthiness and suggested improvements during semi-structured interviews. These interviews were transcribed and analyzed using thematic analysis to identify key themes affecting perceptions of the EHR's trustworthiness.

Results: Through thematic analysis, we developed a categorical system encompassing five principal themes: provider reputation, information quality, system characteristics, user control, and user feedback. The analysis revealed that deficiencies in design and usability indirectly affect perceptions of privacy and data security.

Conclusions: Our study underscores the critical role of contextual factors-including provider reputation, strategic IT partnerships, and user feedback-in cultivating trust in Electronic Health Record (EHR) systems. Addressing privacy concerns and bolstering user trust necessitates not only a professional approach to design and usability but also clear communication about adherence to rigorous data privacy and security standards. In Germany's tightly regulated environment, clearly communicating EHR security standards is crucial. Enhancing trust also involves robust customer support, user control over their data, and leveraging social proof like high download rates or positive reviews. These approaches could significantly improve EHR acceptance and trust in digital health across the country.

Key messages:

- The perceived trustworthiness of EHRs is essential for increasing their reliability and acceptance in healthcare settings.
- Effective communication and design are critical for building trust in digital health technologies. Trust in EHRs grows with transparent data policies and empowering user controls.

Abstract citation ID: ckae144.1049
Characteristics predisposing to the utilization of Internet websites offering e-prescriptions

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Background: The introduction of e-prescriptions in the Polish healthcare system was accompanied by the emergence of websites offering easy access to medication without adequate medical assessment. This study aimed to analyze the characteristics of Polish users of such services.

Methods: The analysis presented here is based on the online survey conducted in June 2023 among 1661 adult Internet users. The multivariable logistic regression model (MLRM) was developed for the variable reflecting the use of e-prescribing web services (EPWS). Sociodemographic variables, self-assessed health status, the presence of chronic disease (CHR) and disabilities (DIS), the frequency of Internet (IU) and social media use (SMU), and finally, digital health literacy (DHL) were included in MLRM as independent variables.

Results: The percentage of respondents who used EPWS was equal to 18.2% ($n = 303$). MLRM revealed that age, vocational and income status, CHR, SMU, and DHL were significant predictors of EPWS use. Older respondents were less likely than younger ones to use EPWS (odds ratio (OR), 95% confidentiality interval (95%CI): 0.97, 0.97-0.99. Persons suffering from the chronic disease, when compared to those without such disease, used EPWS less frequently (OR, 95CI: 0.59, 0.43-0.80) and unemployed when compared to employees (OR, 95%CI: 0.53, 0.32-0.88). A higher likelihood of using EPWS was observed among respondents with the highest income in comparison to those from the group with the lowest income (OR, 95%CI: 1.52, 1.02-2.52) and among more frequent social media users (OR, 95%CI: 3.88, 1.90-7.93). Finally, the increase of DHL score by 1 unit was associated with the increase of the likelihood of EPWS use by 9% (OR, 95%CI: 1.09, 1.05-1.12).

Conclusions: A significant number of adult Internet users utilize EPWS in Poland. Lower age, unemployment, and chronic diseases are negative predictors of EPWS use. More intense SMU and unexpectedly higher DHL predispose to the use of such services.

Key messages:

- Even persons with high e health literacy are inclined to use web portals offering e-prescriptions.
- The high prevalence of the utilization of e-prescribing websites requires awareness campaigns warning about related potential risks.

Abstract citation ID: ckae144.1050
How advanced is your digital public health system? A qualitative analysis of suitable indicators

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Background: Revealing the full potential of digital public health (DiPH) systems necessitates a wide-ranging tool to assess their maturity. Essential domains that need to be considered include the literacy and interest in DiPH tool application by society and the workforce and the legal and ICT maturity of DiPH systems. No review has investigated indicators on these national DiPH system maturity (DiPHSM) domains yet. Our narrative review and qualitative analysis aimed to map the landscape of indicators related to DiPHSM measurement and rank them based on their importance for such assessments.

Methods: As original indicators were not published in scientific databases but as grey literature, we used DuckDuckGo to apply a pre-defined search strategy for 11 countries from all continents classified as having reached level 4 of 5 in the Global Digital Health Monitor. Of the 1484 identified references, 137 were included which named 15806 indicators. Consensus on importance was defined as at least 3 or 4 authors rating an indicator as important.

Results: We recognized 180 indicators on different constructs with importance for DiPHSM analysis, including the availability and use of Smartphones, computers, the Internet or the DiPH intervention, the existence of skilled workforce, infrastructure (investment), and interoperability between interventions, the secondary use of health data, a DiPH strategy and controlling agency, or the application of big data and artificial intelligence for health data collection, analysis, and sharing.

Conclusions: Our study holds the potential to develop more comprehensive tools for DiPHSM assessments. Further examination is required to analyze the suitability and applicability of all identified indicators for diverse healthcare settings. By working towards a uniform evaluation of DiPHSM, we foster informed decision-making among healthcare planners and practitioners, improve resource distribution, and continue to drive innovation in healthcare delivery.

Key messages:

- Maturity assessment tools need to consider the complexity of DiPH systems. Thereby, DiPH system evaluations need to be accompanied by analyses of the legal, ICT, and literacy perspective maturities.
- New methods are needed to systematically assess and use multidisciplinary grey literature for research.

Abstract citation ID: ckae144.1051
Patient and practice characteristics related to patient's consent for health data exchange

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Background: Sharing patient health data electronically between healthcare providers can prevent medical errors and improve patient safety. In the Netherlands, exchange of health information is facilitated on a national level and is only allowed with patient consent. Consequently, it is important to know which factors are related to this patient consent.

Methods: Routine electronic health records data from up to 10% of Dutch general practices (sourced from the Nivel Primary Care Database) were utilized, covering the period from 2016 to 2020. We examined whether patient consent for health data exchange varied depending on patient and practice characteristics, which are expected to have a relationship with granting consent for health data exchange. Therefore, multilevel analysis was performed.

Results: The percentage of patients granting consent ranged between 40%-50% in the period 2016 to 2019, while this was 97% in 2020, due to the governmental corona opt-in regulation. Significant disparities were observed across several of the included patient and practice characteristics in relation to patient consent for all the years examined. In most years, patient consent provision varied by gender, age, socioeconomic position, location, and healthcare use. Practice characteristics showed notable differences in patient consent across information systems, patient volumes, and practice types over all years examined.

Conclusions: We observed significant variations in patient consent for health data exchange, both among the included patient (need) and practice characteristics. These differences may stem from unequal exposure to opportunities to grant consent, differences in risk of inadequate communication between healthcare providers, levels of health literacy, and practice resources. These factors should be taken into account by policymakers when further implementing and upscaling the national health data exchange system.

Key messages:

- Variations in patient consent for health data exchange were observed among different patient groups and general practices.
- Variations in patient consent for health data exchange may stem from unequal exposure to opportunities to grant consent, levels of health literacy, and practice resources, among other factors.

Abstract citation ID: ckae144.1052
Integrating an AI-powered symptom assessment application (SAA) in a hospital network in Portugal

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Introduction: Patients often struggle to understand medical information and healthcare worker shortage strains health systems. Integrating SAAs that guide patients and provide diagnostic decision support (DDS) to doctors can help. This study evaluates the impact of the SAA 'Ada', a class IIa medical device, after its integration into the patient portal of a Portuguese hospital network, CUF, on clinical workflow and patient health.

Methods: This on-going post-market quality improvement study, started in Nov 2023 and has enrolled 664 participants. Participating doctors complete a baseline survey. Consenting patients conduct symptom assessments and answer survey questions within the app. The patient's symptom report is shared with their physician, who then completes a post-consultation survey.

Results: After using Ada, 86% of patients could enter all their symptoms, 79% felt more prepared for their consultation, and 39% felt less health anxiety (N = 664). In the baseline survey, most doctors utilize online resources (96%) in the absence of a symptom checker, followed by discussions with colleagues (65%) for challenging cases (N = 26). In the post-consultation survey, 95% of doctors found Ada's condition suggestions reasonable, with only 10% disagreeing with its triage classification. Doctors reported time saving and increased consultation efficiency (64%), and 59% felt more confidence in their diagnosis. A majority said that Ada provided them with additional information about patients (77%). Ada also improved consultation efficiency (74%), preparation (78%), patient engagement (82%), and health knowledge (77%; N = 22).

Conclusions: By providing personalized health information, Ada prepares patients for their consultation, resulting in improved patient engagement and facilitation of clinical conversation. Incorporating a SAA into routine patient care enhances quality of consultation, reduces consultation time, increases efficiency, and provides DDS to doctors.

Key messages:

- Digital health enhances patient engagement, clinical efficiency, and diagnostic decision support for doctors in healthcare settings.
- Ada's personalized health information empowers patients, improves consultations, and reduces health-related anxiety.

Abstract citation ID: ckae144.1053

Using artificial intelligence to support and streamline rapid systematic evidence reviews

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Issue: The Rapid Evidence Service, initiated by the National Collaborating Centre for Methods and Tools (NCCMT) during COVID-19, supports public health decision making by conducting rapid reviews on priority topics.

Description of issue: Integral to rapid reviews is an expedited timeline but the quantity of available literature for most public health review questions takes significant time to screen manually. NCCMT integrated 4 artificial intelligence (AI) features into the screening process. DAISY Rank applies predictions learned from manual screening patterns to re-order remaining studies, with most relevant appearing first. AI Screening automatically screens remaining studies based on prediction scores. Check for Screening Errors and Re-Rank Report use previous screening patterns to identify studies that were potentially falsely excluded and predict the total number of included studies, respectively. These features were tested by comparing results provided by AI with those produced manually for select test sets.

Results: NCCMT used AI to support and expedite screening, assess screening progress, and/or minimize risk of inappropriately excluding studies for 35 rapid reviews on 20 topics. Using DAISY Rank enabled one screener to review over 4000 references in 9 hours, compared to a different review, where the same amount of screening took 28 hours without DAISY Rank. AI Screening correctly excluded up to 80% of irrelevant search results across reviews. Check for Screening Errors identified 37 potential includes manually excluded in one review; these were reviewed and 3 were included. Re-Rank Report allowed NCCMT to re-allocate staff to subsequent steps in the review process when most included studies were identified.

Lessons: Integrating AI features into screening led to less time required, better anticipated timelines, more accurate staff allocation and reduced errors. More rigorous study of AI best practices is needed to continue to improve rapid review method efficiencies.

Key messages:

- Rapid reviews can be an important source of evidence for decision makers if they can be completed quickly but maintain rigor and accuracy.
- AI holds promise as a way to improve screening efficiency.

9.R. Poster walk: Sexual and gender minority health

Abstract citation ID: ckae144.1054

Information on HIV and Narration of U=U: a mixed method analysis on social media in Italy

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Background: Media play a pivotal role in disseminating accurate information, particularly regarding U=U (Undetectable = Untransmittable), to increase awareness and reduce stigma. This study analyses HIV Italian communication on Facebook and Instagram, with a focus on U=U evidence.

Methods: A mixed-method analysis examined posts on HIV, with linked articles, from Italian news sources from 01/2009 to 04/2023. News sources were categorised as "reliable" or "unreliable" using independent third-party classification. Topic analysis identified the main topics in the posts, while an inductive content analysis was conducted on linked articles regarding U=U. The language and the accuracy in explaining U=U was evaluated through a checklist.

Results: A total of 10,539 Facebook and 749 Instagram posts were analysed, with 716(7%) and 18(2%) from unreliable sources respectively. Reliable and unreliable content surged around World AIDS Day(WAD) on both platforms. On Facebook, the frequency of unreliable content increased over time, whereas on Instagram it was rare and recent. On Facebook, topics varied between reliable and unreliable sources. The 3 most frequent topics from reliable sources were WAD, voluntary HIV spread, and public figures with HIV; those from unreliable sources were Death and Migrant People; Luc Montagnier and COVID-19 Conspiracies; Public Figures with HIV. On Instagram, the first 3 topics were the Italian National Institute of Health and Prevention, WAD, and public figures with HIV. A total of 68 articles nominating U=U were found and analysed, revealing 4 main areas: U=U definition, Prevention, Impact on people living with HIV, and Stigma. The accuracy in explaining U=U was generally low, with 6 articles(8.8%) providing only a definition.

Conclusions: HIV communication in Italy is limited and centered around WAD, with persisting bias. The dissemination of the U=U evidence is lacking. Urgent action is needed to shift the narrative and emphasize this evidence

Key messages:

- HIV communication in Italy is limited and concentrated around World AIDS day.
- The U=U evidence is poorly disseminated, often providing only a definition and medical explanation.

Abstract citation ID: ckae144.1055

Validation of the Multidimensional Scale of Perceived Social Support among LGBT population in Serbia

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Background: Social support represents the belief that one is valued, cared for, and loved by others in a social network and a lack of it may lead to adverse outcomes such as a relapse into depression or emotional distress in physically ill patients. The Multidimensional Scale of Perceived Social Support (MSPSS) is an instrument aimed to measure an individual's perception of how much he or she receives outside social support. This study aimed to examine the validity and reliability of the Serbian version of MSPSS in a sample of LGBT population in Serbia.

Methods: The cross-sectional study included 504 respondents, members of the LGBT population living in Serbia. The instrument used was the MSPSS as a self-report measure, containing twelve items rated on a 7-point Likert scale. MSPSS consists of three subscales: Family, Friends, and Significant Others. Exploratory (EFA) and confirmatory factor analyses (CFA) were performed with two independent random samples.

Results: The average score on the scale of social support was 5.58± 0.84 (scale of social support by family 4.62±1.41, scale of social support by friends 5.93± 1.99, and scale of social support by the significant others 6.20±0.96, respectively). The Cronbach's alpha for the entire social support scale was $\alpha = 0.772$. The three-factor structure of the MSPSS was proved with EFA and CFA. The factor loadings varied between 0.630-0.817. The three factors explained a total of 52.68% of the variance (factor 1- 28.62%, factor 2. 13.16%, factor 3- 10,90%). The three-factor model was adopted during the CFA when the three-factor model CFI (comparative fit index) was 0.969.

Conclusions: The MSPSS has shown good reliability, internal validity and construct validity and can be used as a convenient measure of social support among the LGBT population. Both EFA and CFA yield a three-factor structure consistent with the theory underlying the measure's development.

Key messages:

- The results of the study suggest that the Multidimensional Scale of Perceived Social Support has acceptable psychometric properties for use with the LGBT population.
- This study supports the use of the MSPSS for assessing community-based collaboration using the three-factor model among the LGBT population.

Abstract citation ID: ckae144.1056
Development of Digital Health Gender and Sexual Health Literacy scale

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Introduction: Health literacy, as the ability to obtain, process and understand health information, including gender and sexuality awareness, appears to be underdeveloped in terms of measurement tools and thematic materials. The literature indicates the existence of serious deficits in gender and sexual health literacy at all levels, with implications for relationships with citizens and patients.

Methods: Delphi study agreement was conducted and a pool of potential scale items was generated, reflecting a range of skills and abilities within each domain. Items were carefully worded to ensure clarity, cultural sensitivity and relevance to different gender identities and sexual orientations. Expert review and cognitive pre-testing were employed to refine item wording, assess content validity, and ensure that the 10-item scale was comprehensible and relevant to the target population.

Results: The theoretical development of the 10-item Digital Health Gender and Sexual Health Literacy Scale was successfully completed. The scale items were designed to provide a comprehensive measure of an individual's ability to navigate the digital landscape for gender and sexual health information.

Conclusions: The theoretical validation of the Digital Health Gender and Sexual Health Literacy Scale (DiGeSHeL) provides the community with a promising tool to assess individuals' confidence and ability to use digital technologies for sexual health information and resources. However, further research is needed to validate the scale and test its reliability with a diverse group of participants. Once validated, this scale could be a valuable tool for sexual health promotion programmes to identify gaps and evaluate the impact of digital literacy interventions.

Key messages:

- Gender and sexual literacy are crucial for health.
- Health literacy as six vital sign.

Abstract citation ID: ckae144.1057
Family-based sexual health intervention for adolescents; A systematic review and meta-analysis

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Background: Family-based interventions are important in promoting adolescent sexual health outcomes. However, the effectiveness of these interventions in promoting adolescent sexual and reproductive health (ASRH) in Lower and middle-income countries (LMIC) has not been empirically evaluated. This review aimed to summarise the effectiveness of family-based sexual and reproductive health interventions in promoting ASRH in LMIC.

Methods: We conducted a systematic search for studies published in English from 2000 to October 2023 using MEDLINE, PsyINFO, CINAHL, Web of Science, and EMBASE databases. Studies were included if they involved adolescents aged 10-19 years, included family members in a key intervention component, evaluated the effectiveness of the interventions using an experimental or quasi-experimental design, assessed ASRH outcomes reported by adolescents and were conducted in LMIC setting. Standardized mean difference (SMD) and 95% confidence intervals were computed and meta-analyses were conducted using random effect models.

Results: Ten articles involving 2,246 participants were included in the review. The studies were nostly conducted in Africa. Across studies, there was no significant impact of family-based interventions in improving adolescent sexual health knowledge (SMD=0.5, 95%CI: -1.98 to 2.98), attitudes (SMD= -0.05, 95%CI: -1.92 to 1.82), practices (SMD=0.53, 95%CI: -0.69 to 1.75), or sexual communication with their family (SMD= 0.14, 95%CI: -0.42 to 0.7). Although individual studies reported a mixed effect of family-based interventions in improving sexual health outcomes, the pooled results from the meta-analysis showed no significant impact of family-based interventions.

Conclusions: Our review did not find any significant impact of family-based interventions in improving ASRH in LMIC. We recommend interventions using innovative approaches and novel strategies to align with the socio-cultural and economic background of the study setting.

Key messages:

- This study found no significant impact of family-based interventions in improving ASRH in LMIC.
- Additional studies, particularly from Asia, using culturally relevant interventions is required in this area.

Abstract citation ID: ckae144.1058
Mental health of Finnish cis- and transgender youth before, during and after the COVID-19 pandemic

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Background: Transgender youth report more mental health problems than their cisgender peers, but little is known about their mental health during and after the COVID-19 pandemic. We studied symptoms of anxiety and depression among cis- and transgender youth before, during, and after the pandemic using large nationwide samples.

Methods: Data from the Finnish School Health Promotion survey from years 2019, 2021 and 2023 (461,249 students in total; mean age 15.7, SD 1.3) were used. Self-reports covered official gender, gender identity, symptoms of anxiety (Generalized Anxiety Disorder Scale-7 $\geq$10) and depression (Patient Health Questionnaire-2 $\geq$3). Categories of cisgender boy (officially boy; gender identity boy; $N = 214{,}423$), transfeminine youth (officially boy; gender identity girl, both, neither, or it varies; $N = 5{,}069$), cisgender girl (officially girl; gender identity girl; $N = 224{,}753$), and transmasculine youth (officially girl; gender identity boy, both, neither, or it varies; $N = 14{,}508$) were formed.

Results: In all timepoints, proportion of those with anxiety or depression was higher among transfeminine youth compared with cisgender boys and among transmasculine youth compared with cisgender girls. In all groups anxiety and depression increased significantly from 2019 to 2021 (ORs 1.4-1.8, $p < 0.0001$), with no significant differences in these changes between cis- and transgender groups. From 2021 to 2023, anxiety (OR 0.91, $p = 0.015$) and depression (OR 0.77, $p < 0.0001$) decreased among transmasculine youth but increased among cisgender girls (ORs 1.11 [$p < 0.0001$] and 1.07 [$p < 0.0001$], interactions $p < 0.0001$). Among transfeminine youth, generalized anxiety symptoms decreased from 2021 to 2023, whereas they remained at the level observed in 2021 among cisgender boys (interaction $p = 0.0025$).

Conclusions: In Spring 2023, we found still increasing mental health problems among cisgender girls, while among transgender youth the post-pandemic developments were more positive.

Key messages:

- Post-pandemic, we found further increases in mental health symptoms in cisgender youth, while among transgender youth the development seemed more promising.
- Transgender youth experience more anxiety and depression than their cisgender peers, thus gender diversity deserves still more attention in educational, social, and health care services.

Abstract citation ID: ckae144.1059
Implementation Measures to Break the Gender Gap - a Scoping Review

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Background: For myocardial infarction, in-hospital lethality is still significantly higher in women than in men in Germany. Medical guidelines and nursing expert standards include recommendations for gender-sensitive care (GSC+), but it is unknown how these are implemented in health care practice. Research question: Which measures facilitate the implementation of GSC+?

Methods: Systematic literature research was conducted on Pubmed, web of science and CINAHL with adequate keywords connected with Boolean connectors.

Results: The initial literature search yielded a pool of 23,508 items. After removing irrelevant articles and duplicates 119 articles were included in the present scoping review. Among fifteen generated dimensions, which are summarized to six main dimensions (education, research & science, politics, LGBTQ+ care & education, institutions of care and career advancement), the included articles are related. Education is the dimension with the most identified articles. Key messages of main dimensions are that GSC+ • must be anchored in compulsory subjects of curricula; • must be considered in research. Researchers need to be aware and should follow a structured framework for generating sex-specific guidelines; • can get gain access to politics through purposeful lobby work; • in terms of LGBTQ+ care should be learnt from health care providers to LGBTQ+ people through case studies; • should be implemented strategical through change agents in institutions of care; • can be enhanced through aware women in leading positions, to implement GSC+ successfully.

Conclusions: The implementation of GSC+ has a positive impact on patient care and could reduce undesirable events or outcomes. To reach the implementation target the politics must set frame conditions and universities, science and health care providers have to integrate them. Moreover, the generation of evidence is important to promote GSC+ so that health care professionals have a defined work assignment for GSC+.

Key messages:

- The research results provide a comprehensive overview of the existing literature on implementation measures of gender-sensitive care.
- Healthcare providers are sensitized to gender-sensitive care so that patient care can be further improved.

Abstract citation ID: ckae144.1060
What do we know about femicide in Italy? Data and insights from a repeated cross-sectional study

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Background: Gender-based violence represents a huge public health issue, affecting mental, physical health and productivity. It is a significant obstacle to achieving gender equality and the empowerment of all women. While the overall homicide rate is decreasing in Italy, femicide, the intentional killing of women due to gender-related motivations, remains stable over time. This is the first study in Italy to evaluate potential risk factors of femicide, exploring the sociodemographic characteristics of victims and perpetrators of femicides, as well as the geographic distribution across Italy, with insights into differences between the size of municipalities and between geographic areas.

Methods: A repeated cross-sectional study was conducted to investigate femicides in Italy from 2020 to 2023 using data sources from Non Una Di Meno, an Italian NGO, and the Italian National Institute of Statistics.

Results: Our preliminary findings show that the majority (83%) of homicides of women were femicides. On a final sample of 403 femicides, in most cases (94,3%) the victims were more likely to be hit by their current or former partner or by a family member. In 97% of cases perpetrator was a man. In more than 50% of cases, both the victims and the perpetrators were under 55 years old (respectively, 51,8% and 57,9%). Femicide rates was 0.33 per 100,000 women. There appear to be no significant differences between the rates of femicide as the size of the municipality and the geographic macro-area vary, highlighting the extensive spread of the phenomenon throughout the territory.

Conclusions: Our findings show that femicide is a systematic and widespread phenomenon that occurs mostly within the home and needs interventions at the European level to prevent systemic violence against women. Moreover, this study provides methodological considerations to define femicide, suggests improvements to data collection methods and offer insights for future research in this field.

Key messages:

- It is important to gather robust data on gender-based homicide, as it represents a public health issue.
- Femicide is a pervasive and systematic phenomenon that predominantly occurs within the home and requires intervention at the European level.

Abstract citation ID: ckae144.1061

Association between dietary supplements and frailty by sex: a cross-sectional study in South Korea

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Background: Evidence regarding the benefits of dietary supplements against frailty is lacking. Therefore, we aimed to examine the association between the use of dietary supplements and frailty. The analyses were stratified by sex to consider the sexual dimorphism in frailty.

Methods: This study used national, cross-sectional survey data from South Korea, namely the Korea National Health and Nutrition Examination Survey (KNHANES, 2018-2020). Adults aged 50 years were included. Data for up to four supplements were collected for each participant. A 46-item frailty index was constructed to assess frailty. All percentages (%) were weighted to represent the national population. The association between the use of dietary supplements and frailty was investigated using a linear regression analysis with socioeconomic/lifestyle factors and the amount of nutrient intake from diet included as covariates.

Results: Of the included 27,384 older adults, 57.28% were women. The proportion of supplement users was significantly higher in women (64.31% vs. 77.71%, $p < 0.001$). Any supplement use was negatively associated with frailty (B = -0.015, $p < 0.001$), and the association was more significant in women (Any supplement use * women: B = -0.012, $p = 0.002$). From the multivariable regression analysis stratified by sex, the use of red ginseng (men: B = -0.019, women: B = -0.015) and calcium (B = -0.027, women: B = -0.012) were negatively associated with frailty in both sexes while the statistical significance for vitamin C was found only in men (B = -0.020) (all $p < 0.05$).

Conclusions: Our findings demonstrated a significant negative association between the use of dietary supplements and frailty. The associations varied by type of supplements and by sex. The findings should be validated using prospective data.

Key messages:

- Red ginseng and calcium supplements were negatively associated with frailty in both sexes.
- We assessed frailty using frailty index which highlights the potential role of dietary supplements beyond the context of physical or musculoskeletal function.

Abstract citation ID: ckae144.1062

How can healthcare providers reduce the adverse effects of endometriosis on women's life course?

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Background: Endometriosis is a chronic gynecological disease that affects about 10% of women of reproductive age. Its symptoms vary in severity and manifestation. Diagnosis is often delayed by an average of 10 years, which may significantly affect women's lives. This study explores how endometriosis morbidity affects women's relationships, intimacy, and employment over their lifetime.

Methods: An online survey was conducted in February 2024 among Jewish Israeli women aged 18 to 50. Out of the 573 women, 270 were diagnosed with endometriosis. The survey collected information on the women's diagnostic status, pain severity, social support, negative interactions, life-course impact, and distance from the doctor's clinic.

Results: Women with endometriosis experience a negative impact on their life course compared to women without the disease, particularly in relationships and intimacy (39.41 vs. 18.44, $p<.001$) and employment (19.39 vs. 19.11, $p<.001$). A multivariate regression model was used to predict the effect of endometriosis on the women's life course and revealed that a negative impact on relationships and intimacy ($R2=.385$, $n = 505$) might be predicted by longer travel distance to the doctor's clinic, higher reported pain level, less reported social support level, and higher reported negative interactions. Furthermore, a negative effect on employment ($R2 = .270$, $n = 513$) was predicted by a longer distance to the clinic, a higher reported pain level, less reported social support level, and higher reported negative interactions.

Conclusions: Enencing supportive environments and increasing accessibility to health services is vital to improving the negative impact of endometriosis on women's lives.

Key messages:

- Endometriosis treatment requires a multi-faceted approach, including supportive frameworks, reducing negative interactions, and addressing gaps in health service accessibility.
- Awareness must be raised among employers regarding endometriosis, creating a supportive environment and making necessary adjustments for employees to openly communicate their needs and struggles.

Abstract citation ID: ckae144.1063
Capacity mapping of comprehensive sexuality education in Gabon: A qualitative analysis

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Background: Access to comprehensive sexuality education (CSE) is crucial for adolescent health and well-being. Following UNESCO's recommendations, Gabon revised its sex education policy in 2017 to better address adolescents' sexual health needs. This study aims to map the capacities of the public health and education sector to implement Gabon's CSE policy.

Methods: Semi-structured interviews were held with 15 professionals from ministries, NGOs, and development partners. Thematic analysis guided by Aluttis et al's public health capacity model allowed to assess the existing capacities and gaps in leadership, organizational structures, partnerships, resources, and knowledge development for CSE.

Results: The implementation of CSE in Gabon is hindered by socio-cultural and political factors, including the taboo on adolescent sexuality influencing perceptions of CSE content, natalist policies, and socio-economic disparities. Governmental involvement in CSE is limited to key ministries. Organizational structures for CSE lack cohesion due to changes in governance regimes and a lack of support for civil society organizations. Human resources are unevenly distributed, and financial constraints impede government initiatives, causing a strong reliance on external funding. An important role in supporting CSE is played by development partners and partnerships between stakeholders. While knowledge development for CSE is underway, monitoring and evaluation procedures are insufficient, and evidence mobilization by key professionals is insufficient.

Conclusions: Enhancing stakeholder collaboration, addressing structural constraints, and mobilizing human and financial resources are critical for effective CSE implementation in Gabon. Addressing these barriers requires coordinated efforts among stakeholders and addressing systemic challenges. This study provides insights for policymakers and practitioners to strengthen CSE programs and promote adolescent sexual health in Gabon.

Key messages:
- CSE implementation is hindered by taboos on adolescent sexuality, natalist policies, and socio-economic gaps.
- Evaluation and evidence mobilization deficits limit effectiveness.

9.S. Poster walk: Health literacy

Abstract citation ID: ckae144.1064
The role of health literacy in adherence to the Mediterranean diet

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Background: Health literacy has emerged as a crucial concept in public health. It is considered a modifiable determinant influencing health-related decision. One such decision is the adoption of specific dietary patterns. The Mediterranean diet has garnered recognition as one of the healthiest diets. This study aims to explore the association between health literacy levels among adults in socially vulnerable contexts and their adherence to the Mediterranean diet.

Methods: This study is part of a cluster-randomized trial conducted in primary schools from socially vulnerable contexts. A total of 469 parents of school-aged children agreed to participate. Health literacy was assessed using the Health Literacy Survey Questionnaire. Adherence to the Mediterranean diet was evaluated using the MEDAS questionnaire. Anthropometric and sociodemographic variables were self-reported via questionnaire. Parental BMI was calculated using weight/heightˆ2. Education level was categorized into two groups (less than higher education and higher education), while professional status was classified based on the occupational categories of collar color. Generalized linear models were utilized for the analysis.

Results: Individuals with higher levels of health literacy present a greater odd to adhere to the Mediterranean diet (B = 0.022, 95% CI 0.010-0.035), even after adjusting for potential confounders (B = 0.019, 95% CI 0.006-0.032).

Conclusions: Health literacy emerges as a crucial factor influencing individuals' dietary choices, as evidenced by its association with higher adherence to the Mediterranean diet. These findings underscore the importance of implementing policies and initiatives aimed at promoting health literacy, particularly among individuals from socially vulnerable contexts. Enhancing public health interventions to bolster health literacy should be prioritized to foster better dietary decision-making.

Key messages:
- Health literacy plays an important role in the adoption of Mediterranean diet among adults from socially vulnerable contexts.
- Implementing policies to aim the promotion of health literacy, particularly among individuals from socially vulnerable contexts are necessary.

Abstract citation ID: ckae144.1065
Navigating Co-design in Children's Health Literacy Interventions in Schools

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Today's society exposes children to vast amounts of health-related information, presenting significant challenges in navigating this content. European health literacy (HL) research underscores the primary school's role in educating children's HL. Several HL interventions have been developed for a school setting and few have used co-design with adolescents. However less is known about co-designing HL activities with children. Therefore, this study aims to identify barriers and facilitators for co-designing HL activities with 9 to 12-year-old children in school settings. We use 4 phases of design-based research for the process of co-designing learning activities with multiple teams of 6-8 children in school settings. First, children Reflect on HL and empathize and define skills they want to design activities for. They Design activities through ideation and prototyping. We use a variety of creative methods for the sessions and analyses, such as body mapping and affinity mapping. The evaluation of the effectiveness regarding HL and learning outcomes will be performed in Test and Evaluate phases. Our preliminary results show that children need short and clear assignments for the sessions to reach the goals. Children are enthusiastic to participate and like the methods used in the session, although the concept of HL is sometimes difficult to comprehend. It is challenging for children to come up with creative and appropriate elements for activities without correct health information. We are awaiting results from Test and Evaluate phase on the effect on HL levels and learning outcomes. Children are able to co-design HL activities together with HL and health promotion researchers. By giving children a voice and hands-on experience in the design process, we are able to create activities that are suitable for the target population. This co-design process will be evaluated and adapted to an intervention for the "healthy school" program in the Netherlands.

Key messages:

- By co-designing HL activities children actively learn about health literacy.
- Children are important and capable co-designers for HL activities when working together with HL researchers.

Abstract citation ID: ckae144.1066
Designing infographics in health research with patients and the public: A scoping review

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Patient and public involvement (PPI) in health research is increasing, in recognition for its potential to enhance the quality and relevance of research. To date, there has been no comprehensive review of the literature on the design of infographics with patients and the public in health research. This scoping review aims to explore the extent and nature of PPI in the design of infographics, a commonly used tool for communicating complex health information to diverse audiences. The review used Arksey and O'Malley's methodological framework by Levac et al. Comprehensive searches were carried out in the following databases: Scopus, PubMed Central, Web of Science, EMBASE, CINAHL Complete, PsychINFO, and Cochrane Library. Identified citations were exported to Endnote and imported into Rayyan software for title and abstract screening. Preliminary results report a total of 738 citations imported, out of which 364 duplicates were removed and 374 citations underwent title and abstract screening. Of these, 80 citations were relevant for full-text review. Two independent reviewers evaluated full texts, resolving discrepancies through discussion or by a third reviewer. 62 studies were included in the review. Relevant data was extracted, and numeric and narrative analyses were performed to synthesize findings across included studies. The review found growing interest in PPI for health infographic design, using diverse approaches to engage patients and the public at various design stages. A wide variety of health topics were represented including disease specific topics, pain and weight gain. Common themes identified included the importance of accessibility, clarity, and cultural sensitivity in infographic development, as well as challenges related to generalisability, social desirability bias and ensuring meaningful involvement. This review offers insights and suggests further research and practice in leveraging PPI to optimize the design and impact of health infographics.

Key messages:

- Growing Interest and Importance of Patient and Public Involvement (PPI) in Health Research Design.
- Challenges and Opportunities in Infographic Design for Health Communication.

Abstract citation ID: ckae144.1067
Development of a risk-stratified shared decision-making tool for colorectal cancer screening

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European guidelines stress the importance of informed decision-making in colorectal cancer (CRC) screening. However, tailored tools that facilitate decision-making for underserved people and general practitioners (GPs) in Flanders are lacking. This study aimed to develop a tailored shared decision-making (SDM) tool for CRC screening, specifically a video decision aid, using a co-creative process. The development involved two rounds of focus group discussions with underserved people and five local quality group meetings with GPs in various parts of Flanders, Belgium. Qualitative data were analyzed using a Modified-Grounded Theory Analytical (M-GTA) approach to identify key themes. Findings revealed four core themes. The first theme, 'Recognizing the Barriers to Screening', identifies challenges such as a lack of time, staff, and tools for GPs, as well as language and literacy barriers for underserved people. The second theme, 'Learning from Existing Tools', highlights successful elements like visuals and simple language and limitations such as low accessibility and poor navigation. The third theme, 'Determining the Content and Design,' reveals that GPs seek user-friendly tools for at-home viewing, while underserved people value personalized and clear information about CRC risk factors and screening costs. The final theme, 'Identifying Strategies for Integration,' stresses the importance of a structured, collaborative care approach for the successful integration of the tool. The proposed modifications for the SDM tool include enhancing its accessibility with multiple language options, using simple and relatable visuals, and providing personalized risk discussions for underserved people and GPs. Nonetheless, further testing is needed to confirm the effectiveness of the SDM tool in supporting preventive talks and informed decision-making in CRC screening among these target groups.

Key messages:

- A structured, collaborative care approach is needed for successful SDM tool integration during preventive talks with underserved people.
- Further testing is needed to confirm the tool's effectiveness in supporting informed decision-making in CRC screening for underserved people.

Abstract citation ID: ckae144.1068
Scoping Review of Health Literacy Interventions among Migrant Communities in Europe

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Background: The increase in migration trends in Europe has brought attention to the significant health disparities between migrant and native populations, which are largely rooted in social determinants of health such as economic difficulties, language barriers, and limited access to services. Tailored health literacy (HL) interventions can serve as an intermediate factor between social determinants of health and health outcome, thereby holding great potential for addressing these disparities. Despite a growing body of research on migrant health, there remains a gap in our understanding of effective HL interventions for this population.

Methods: A scoping review was conducted following the Joanna Briggs Institute (JBI) updated guidelines and the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist. Electronic searches were carried out across five databases (PubMed, SCOPUS, Web of Science, PsychINFO, and CINHAL) and supplemented by a manual search. We included European studies on migrant HL interventions, conducted between 2011 and 2023, and published in English or Portuguese language.

Results: Out of 1018 records, 7 studies met eligibility criteria. Predominantly situated in Northern and Western Europe (85.5%), interventions primarily targeted female migrants (71.4%) through in-person courses (42.9%). Identified intervention strengths included culturally adapted content, migrant engagement, and access to written materials. Gaps included mental health interventions and community outreach.

Conclusions: This scoping review provides a comprehensive overview of HL interventions targeting migrant populations, highlighting their characteristics, strengths, and gaps. These findings serve as a foundational step towards developing guidelines for effective HL interventions within migrant communities.

Key messages:
- Most European health literacy interventions for migrants target women and are conducted in North or West Europe.
- Cultural adaptation and community engagement are key strengths of migrant health literacy interventions, yet gaps remain in mental health support and community outreach efforts.

Abstract citation ID: ckae144.1069
Visualizing science - the rise of graphical abstracts in public health journals

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Background: As graphical abstracts (GA) gain popularity in scientific journals, they enhance visibility and engagement by summarizing research articles visually, while reaching both scientists and lay audiences more effectively. This study assesses the integration of GA in public health journals, focusing their role in enhancing scientific dissemination.

Methods: We conducted a descriptive quantitative analysis of 163 top-tier journals in Public Health, Environmental, and Occupational Health, using SCImago rankings. The analysis focused on factors such as mentions of GA and video abstracts (VA) in guidelines, mandatory use of GA, accessibility to GA, and adherence to GA's best practices, which include graphical support, titles, and basic explanations.

Results: Of the journals analysed, 43 (26.4%) mention GA in their guidelines; only three (1.8%) require their mandatory use. Eight journals (4.9%) offer GA as part of paid promotional services, while 16 (9.8%) provide easy access to GA in their articles, and just six adhere to basic best practices. VA is mentioned in 25 journals (15.3%), with only nine (5.5%) featuring both GA and VA. Dedicated website sections for GA or VA are found in six journals (3.7%). Elsevier B.V. and Wiley-Blackwell are leaders in promoting GA usage, with 19 and nine mentions in guidelines, respectively.

Conclusions: The adoption of GA in public health journals is increasing, yet full adherence to best practices is not widespread. This trend points to a more visually engaging form of scientific communication, potentially influencing publication standards and research dissemination. The study underscores the need for further training in GA production and promotion among researchers and editors. Additionally, the emergence of GA as a paid promotional tool indicates a novel approach to broadening research outreach, with relevant implications for the standardization of scientific communication across Europe.

Key messages:
- Only 26.4% of public health journals mention graphical abstracts, highlighting the need for wider adoption to enhance research visibility.
- Graphical abstracts boost engagement, but adherence to best practices remains low, underlining the need for better training in visual communication.

Abstract citation ID: ckae144.1070
Digital health literacy and associated socio-demographic characteristics in the French population

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Background: With the development of digital devices in the health field, digital health literacy has become an important issue in promoting and protecting people's health. Digital health literacy was measured in a representative sample of the French adult population in order to assess its level and to identify the socio-demographic characteristics of individuals with the lowest literacy levels. Comparisons with works carried out in other European countries as well as implications for the implementation of digital interventions will be discussed.

Methods: Digital health literacy was assed using the HLS19-DIGI-HI Instrument. This 8-item scale measuring the skills related to dealing with digital health information was introduced in the 2023 Health Barometer survey, conducted by the French national public health agency. The survey included French-speaking individuals living in France, aged 18-85, selected through randomly generated phone numbers. 3007 persons were interviewed using a computer assisted telephone interview. A continuous score and categories were calculated to determine the level of Digital Health Literacy. Their associations with sociodemographic characteristics were studied using univariate and multivariate analysis.

Results: 1902 persons declared they used internet to search information or advice on health on internet in the last 12 months and completed the Digital health literacy questionnaire. 61 % of these individuals have a low level of digital health literacy (29 % "inadequate" and 32% "problematic"). Multiple sociodemographic characteristics were associated with lower levels of literacy in univariate and multivariate analysis.

Conclusions: These results are useful to better understand and assess the digital health literacy of the population according to their socio-demographic characteristics. They will provide a knowledge base to implement web-based interventions for promoting targeted digital health interventions, according to targeted audiences.

Key messages:

- This study in large random sample of the French population showed frequent difficulties to deal with online health information.
- Multiple sociodemographic characteristics were associated with digital health literacy and can help to support implementation of targeted digital health interventions.

Abstract citation ID: ckae144.1071
Adolescent mental health literacy and help-seeking behaviours. Cross-Sectional survey in Barcelona

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Background: Adolescents' mental health information and help-seeking is critical for preventing the development of mental disorders. This study aims to examine the relationship between mental health literacy and information and help-seeking behaviours, as well as the effects of age and gender.

Methods: A cross-sectional online survey on a representative sample of 2,240 secondary school students in Barcelona from 11 randomly selected schools. Participants are evenly distributed by age (25% each course) and gender.

Results: Most adolescents show good recognition of mental disorders and knowledge of mental health (M = 6.39/10; SD = 1.97 and M = 7.75/10; SD = 1.21 respectively). They report having good literacy (M = 3.25/5; SD = 0.71) to search and manage online health information (eHealth literacy), and around half of them affirm having enough knowledge about mental health for them. Search engines (35.7%) and talking to family/friends (31.8%) are preferred for mental health information-seeking, but 19.8% chose not to engage in active information-seeking behaviour. When having mental health concerns, they prefer seeking help ("I would not ask for help" M = 2.4/7; SD = 1.93), and turning to family (M = 4.7/7; SD = 2.4) and friends (M = 4/7; SD = 2.1), instead of health professionals (M = 2.5/7; SD = 3.5). Chi-square test reveals that: lower recognition of mental disorders is associated with not help-seeking; lower mental health knowledge is associated with beliefs that information for mental health promotion, prevention, and care is unnecessary; and higher eHealth literacy is related to information searching in social media, but not to active searching. The ANOVA test reveals a significant gender-age interaction in certain variables, particularly in the recognition of mental disorders, which is higher in girls and increases with age.

Conclusions: Higher eHealth literacy is related to information-seeking on social media, but not to active search. Girls have a higher level of recognition of mental disorders.

Key messages:

- Adolescents need a support network to seek mental health help, as they often avoid seeking professional help.
- Mental health promotion activities would benefit from further exploration of gender differences.

Abstract citation ID: ckae144.1072
Stakeholders' perspectives on informed decision-making for migrant women in CC prevention programs

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Background: This study gathered the perspectives of stakeholders regarding participation in cervical cancer (CC) screening and human papilloma virus (HPV) vaccination among migrant women in the Netherlands. Considering their perspectives by developing interventions that are tailored to migrant women's information needs regarding CC screening and HPV vaccination will support informed decision-making.

Methods: In total five focus group discussions were held with community leaders, healthcare professionals and communication experts separately. The focus group discussions were transcribed verbatim in Dutch, and analyzed thematically according to the Grounded Theory.

Results: The analysis resulted in six themes. The first theme describes the existing views and misconceptions regarding CC (screening) and HPV vaccination in the target population according to the stakeholders. The second theme is about the current approach of informing about these health programs, and its belonging barriers. Theme three dives into the differences within the target population, such as generations and level of language. Theme four describes the conditions to which interventions should adhere. In theme five and six suggestions for interventions were introduced, focused on the target population and their (social) network respectively.

Conclusions: The results of this study showed that stakeholders are willing to play a role to support informed decision-making regarding CC (screening) and HPV vaccination among migrant women, but they need more training to support. Community leaders express a need for training to gather more medical knowledge of CC and its prevention programs. Healthcare professionals expressed a need for more insight into the practical, cultural, religious and emotional aspects that play a role within this target population. Communication experts emphasize the need for customized information materials and a more district-oriented approach.

Key messages:

- Stakeholders operating at different levels are willing to play a role in increasing informed decision-making regarding CC screening and HPV vaccination.
- Migrant women's (social) network need more training and support to be able to provide tailored information regarding CC screening and HPV vaccination.

Abstract citation ID: ckae144.1073
Public and professional attitudes to the digitisation of health and social care in Ireland

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Background: The European Commission has set targets for all EU citizens to have access to electronic medical records by 2030. In Ireland the Sláintecare health reform programme has set goals around the use of digital technologies in health and social care. The Health Information and Quality Authority (an independent authority established to drive high-quality and safe care for people using health and social care services in Ireland) in partnership with the Health Service Executive (public healthcare provider) and the Department of Health (Ministry) conducted a National Engagement on Digital Health and Social Care. The aim of this engagement was to understand the opinion, attitudes and comfort levels of the public and professionals working in health and social care around digitisation of health and social care.

Methods: The National Engagement on Digital Health and Social Care used a mixed-method approach to data collection. There were two surveys, a national telephone survey with a representative sample of the public (n = 2009) and an online survey with professionals working in health and social care (n = 1020). There were separate focus groups with professionals and with the public, including representatives of minority groups.

Results: Preliminary results indicate that the public and professionals have positive attitudes to digital health and social care. Of the public surveyed 73% said that they are likely to access their online health record. Professionals feel that when the public have access to information via an online health record they will be better informed about their health (88%). Both the professionals and public feel that it is important to ensure patient choice around the format and delivery of care.

Conclusions: The research provides valuable insights and gives the public and professionals a platform to voice their opinions and have a meaningful impact on how digital health and social care is developed and implemented in Ireland.

Key messages:
- This research provides unique insights and a deeper understanding into the attitudes of Irish public and professionals working in health and social care towards digital health.
- Research findings will inform national policy, legislation and recommendations on the use of digital health tools in Ireland.

Abstract citation ID: ckae144.1074
Mixed-methods systematic review of shared decision-making tools for cancer screening

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Shared decision-making (SDM) tools hold promise for guiding informed choices in cancer screening. However, their effectiveness among underserved people, as well as the specific characteristics of these tools preferred by this group and clinicians, remains unclear. This review aimed to synthesize evidence on the effectiveness of SDM tools for cancer screening and explored the preferences of underserved people and clinicians regarding the specific characteristics of the SDM tools. A mixed-method convergent segregated approach was employed, which involved an independent synthesis of quantitative and qualitative data. Articles were systematically selected and screened, resulting in the inclusion and critical appraisal of 55 studies. Results from the meta-analyses showed that SDM tools for cancer screening are effective in reducing decisional conflict for both the general population and the underserved, and in increasing cancer screening knowledge and intention for underserved people only. Subgroup analyses showed minimal heterogeneity for decisional conflict outcomes, measured over a six-month period. Insights from the qualitative findings revealed that underserved people highly preferred SDM tools with relevant information about cancer risk, culturally tailored content, and high accessibility, both during clinical encounters and beyond. Meanwhile, clinicians highly preferred tools that can be easily integrated into medical systems, and can effectively guide SDM, while considering their patients' values and the limited time for consultation. There is strong evidence on the effectiveness of SDM tools in facilitating informed choice in cancer screening, especially among underserved people. However, evidence on long-term outcomes remains insufficient. Additionally, considering the difference in preferences of key stakeholders in terms of tool characteristics, fostering collaboration with them during the creation of an SDM tool for cancer screening is essential.

Key messages:
- Shared decision-making tools are effective in increasing screening knowledge and intention among underserved people.
- Considering the difference in preferences of key stakeholders in terms of tool characteristics, fostering collaboration with them during the creation of an SDM tool for cancer screening is essential.

Abstract citation ID: ckae144.1075
Is genomic testing properly evaluated? A systematic review of health technology assessment reports

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Background: The last decade has witnessed a steady embrace of Personalized Medicine. However, the evaluation of genetic/genomic tests is not straightforward. The purpose of this systematic review is to identify health technology assessment (HTA) reports assessing genetic and genomic tests, to summarize the methodologies used, the maturity level of the evidence included in it and the highlighted gaps in research.

Methods: PubMed, Scopus, and Web of Science were searched. Additionally, a desk research was performed on the main HTA reports repositories. HTA reports expressly created to assess genetic/genomic technologies including at least three core evaluation components (analytic validity, clinical validity, clinical utility, economic evaluation, organizational aspects, ethical, legal, and social implications) were included. This study was supported by the EC and MUR under PNRR - M4C2-I1.3 Project PE_00000019 'HEAL ITALIA'.

Results: Overall, 27331 unique records were retrieved, 55 of which were included in the systematic review. The reports were mainly from Australia (29%), Canada (27%) and UK (25%), regarded

pharmacogenomics (36%) and oncology (35%), and analysed test use for treatment choice (29%) and diagnosis (13%). The most reported evaluation components were economic evaluation (87%), clinical utility (76%), and clinical validity (67%). Personal utility (7%), ethical (15%), legal (11%) and social (24%) implications and the patient's perspective (27%) were poorly represented. Analytical validity, safety, and organizational aspects were included in about half of the reports.

Discussion: Although these are only preliminary results, the substantial lack of a shared standard in the evaluation of genetic/genomic applications appears clear, given the heterogeneity of the dimensions addressed between reports, as well as the need to strengthen the evaluation of the neglected dimensions, often of primary importance in the definition of the value and risks of personalized medicine.

Key messages:

- The findings highlight the lack of a standard in evaluating genetic/genomic applications.
- A common methodology should be developed to comprehensively evaluate genetic/genomic applications.

10.R. Poster walk: Global health and One Health

Abstract citation ID: ckae144.1076
Human-forest proximity and the risk infectious diseases in a changing world

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Background: Emerging Infectious Diseases (EIDs) pose a significant threat to global human health; they can lead to epidemics and pandemics with severe repercussions on human life, economic performance, and societal well-being. Despite the recognized negative impact of the EIDs, current research lacks a comprehensive global framework to assess the significance and interaction of various environmental and anthropogenic factors driving emergence of these diseases.

Methods: In this study, we examine both environmental and anthropogenic factors and their relation to the emergence of EIDs, focusing on historical trends from 1975 to 2020. We focus on 10 diseases with pandemic and epidemic potential. Spatial data on outbreaks in humans and animals from 1975 to 2020 were retrieved from the GIDEON database. Using Bayesian statistical models, we pinpoint regions at increased risk, and we focus on a new indicator based on the human-forest proximity.

Conclusions: Our results show that human-forest proximity together with biodiversity loss, and high population density increase the likelihood of diseases being transmitted from animals to humans, influencing where outbreaks occur among human populations. Lastly, we introduce a country vulnerability index that combines our risk assessment with the IHRC3 indicator from the WHO, which gauges a country's capability to handle zoonotic diseases. These combined indices help us to assess each country's ability to respond to an outbreak. The study also addresses data limitations and proposes directions for future research, emphasizing the importance of our findings in shaping public health policies and decision-making.

Key messages:

- Anthropogenic drivers shape the distribution of outbreaks in human populations.
- Human-forest proximity exacerbates the likelihood of Emerging Infectious Disease.

Abstract citation ID: ckae144.1077
Level of tobacco dependence and beliefs towards heated tobacco products

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Nicotine dependence affects not only behaviors related directly to smoking, quit attempts or looking for alternative products but also beliefs about smoking. We sought to assess whether the level of tobacco dependence is associated with beliefs and feelings towards heated tobacco products (HTP) and to assess the relationship between tobacco dependence and the motivators to quit HTP use. Random population sample of Polish citizens aged 18+ years, former smokers, current HTP users was recruited. Tobacco dependence was assessed using 5 question; participants were classified into two groups of tobacco dependence (low or high) using a two-stage cluster analysis. An extensive questionnaire on beliefs on HTP use was administered. The $\chi 2$ test and logistic regression were used. There were 2,500 participants (62.6% women) of median age=36 years (Q1=29, Q3=45). The median number of years of smoking was 10 (Q1=5, Q3=15) and median number of years of HTP use was 2 (Q1=1, Q3=3). High tobacco dependence was found in 958 (38,3%) participants. Compared to low dependence, high tobacco dependence was related with feeling of strong need for HTP use (69.7% vs. 47.6%, $p < 0{,}001$). High level of tobacco dependence was positively related to perceived social pressure against smoking (72.9% vs. 44.9%, $p < 0{,}001$), but it did not differentiate perceived social pressure against HTP use. Compared to low tobacco dependence, participants with high tobacco dependence more often indicated fear of illness OR = 1,73 95%CI=1,46-2,07, own resolution OR = 1,32 95%CI =1,12-1,55 and price OR = 1,34 95%CI=1,13-1,59 as possible motivators to quit HTP use. Level of tobacco dependence in former smokers shaped beliefs and feelings towards HTP use. High tobacco dependence contributed to strong need to use HTP and also increased perception of social pressure against smoking, but not against using HTP. It also increased the importance of fear of illness, price and one's own resolution as motivators to quit HTP use.

Key messages:

- High level of tobacco dependence in former smokers results in stronger perceived social pressure against smoking but not against HTP use.
- High tobacco dependence in former smokers is related with stronger need to use HTP.

Abstract citation ID: ckae144.1078
Communication of EU agricultural antibiotic use policies to farmers & implications for public health

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Background: It is estimated that by 2050, ten million people will die each year from antimicrobial resistant infections. AMR is driven by the improper use of antimicrobials, particularly in agriculture. 73% of the antimicrobials sold globally are used in food-producing animals.

Problem: EU regulations 2019/6 and 2019/4 on veterinary medications and medicated feed require behavior change by farmers to reduce their antimicrobial use. While this is welcomed by public health professionals, the response of the farming community is more complicated, as these regulations exist within the complex context of the global food system and current political unrest between farmers and the EU. Given the influential role of agricultural media for farmers' decision making, it is critical to understand how AMR and associated public health and EU policies are being communicated to farmers and how the views of specific stakeholders including farmer representative organizations, veterinary bodies and government regulators are being represented. To examine this problem, a case study content analysis of three major agricultural newspapers in Ireland is undertaken.

Results: Preliminary results suggest that AMR and AMU have been covered in the agricultural media with specific coverage on these EU policies. This includes negative coverage, with key terms such as "threatens", "risk", or "warns", as well as potentially positive views (e.g. "hope"). Preliminary results also suggest that the agricultural media might be a useful source to identify the farming community's concerns and reactions to EU policy, for example calls by farmer representative bodies for the national government to intervene.

Lessons: Public health professionals must recognize the important role of farmers in addressing AMR. Evaluating how EU policies on AMR are represented in the agricultural media can help to better understand how this public health issue and its solutions are being communicated to these important stakeholders.

Key messages:
- Public health professionals must recognize the importance of animal health and the role of farmers in addressing the AMR problem.
- It is critical to evaluate how EU policies on AMR and associated One Health issues are communicated to non-public health professionals.

Abstract citation ID: ckae144.1079
Evaluating mental health care initiatives after Ghana's mental health act: a systematic analysis

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Mental health disorders affect 970 million people worldwide. Particularly in Africa, mental health is a growing concern, as it faces poverty and limited healthcare services. The Ghana Mental Health Act (GMHA 2012) marked a significant milestone in the development of a legislative framework supporting the provision of mental healthcare. However, evidence of progress since then is scarce. This systematic review examines the mental health initiatives that have been implemented since GMHA. Bronfenbrenner's Socio-Ecological and Vygotsky's Sociocultural Theory are used as frameworks to organize the interventions by ecological layers and cultural practices. All peer-reviewed articles published since the GMHA were retrieved from PubMed, Cochrane and Science Direct, using "mental health interventions," "-collaborations," "-health programs" and "Ghana" as keywords. The search yielded 3839 articles. Next, publications that were not conducted in Ghana or did not focus on mental health were excluded yielding a final sample of 69 articles for the review. Consistent with the GMHA's guidelines interventions were conducted in communities (n = 56; 81%) rather than hospitals (n = 13; 19%). Most of them focused on institutional ecological levels (i.e., schools, health centers, traditional healing conventions; n = 29; 42%), followed by interpersonal (n = 14; 20%) and community-level (n = 14; 20%) approaches. Half (n = 33; 48%) entailed some form of cultural responsiveness, such as adapting educational tools to cultural contexts or accounting for spiritual beliefs. Only 23% (n = 16) of the interventions targeted children or adolescents. The findings of this review suggest three implications for future mental health research. First, stigma reduction and mental health literacy need to become a stronger focus. Second, research on children and adolescents needs to be increased. Third, interventions led by European partners must be tailored carefully to the Ghanaian beliefs system.

Key messages:
- Assessing the community-based approach of mental health interventions following the Mental Health Act's legalization in Ghana.
- European partners need to understand the context and the local culture before planning to research or implement intervention materials. Adaptation is key in the effectiveness of the intervention.

Abstract citation ID: ckae144.1080
Global malaria vaccine research and community perception in Africa: a systematic review

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Background: Malaria vaccine is one of the critical areas in tropical health research, considering the success recorded in other vaccine-preventable diseases. This review provides an overview of global malaria vaccine research and systematically reviews community perception of the vaccine in Africa.

Methods: A validated search was conducted to identify scientific literature on malaria vaccines in the Scopus database from 2005. Bibliometric indicators explored include publication/citation indices over time and the overall research themes using VOSviewer. A further in-depth search was undertaken in five databases to identify studies on community perception of malaria vaccine in Africa. Studies were screened, quality appraised, and narratively synthesized.

Results: 6457 malaria-vaccine-related documents were found in 160 journals/sources from 189 countries/territories. There were 214,323 total citations, with 33.2 average citations per document and 167 documents' h-index. The United States, United Kingdom and Australia combined produced more than 60% of the publication output. Six themes emerged from the global malaria vaccine research: Merozoite surface protein, characterization, trials, infant/children, traveler, and research/review. Twenty studies (n = 20) met the inclusion criteria for the systematic review. Overall perceptions of malaria vaccines varied in African communities (26.2-88.2%), in addition to higher willingness to accept the vaccines (32.3%-96.0%), poor knowledge/awareness (11%-60%) and misconceptions (19.2%-20.9%). Other issues identified include vaccine availability and logistics.

Conclusions: Malaria vaccine research and citations have increased considerably, mainly targeting vaccine development and safety/efficacy in Africa. African communities' perceptions of the vaccine varied, with most of the population willing to accept the vaccine.

Key messages:

- An increase in number of malaria vaccine research targeting vaccine development, and safety and efficacy in Africa.
- Varried malaria vaccine perception in Africa, including willingness to accept the vaccine, awareness, misconceptions, availability and logistics.

Abstract citation ID: ckae144.1081
Rabies epidemiology in the central of Tunisia: A Call for a One-Health Approach

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Background: Advocating for a One-Health approach is crucial for ensuring effective rabies surveillance in Africa, including Tunisia. Collecting information is essential to evaluate the prevalence of dog bites and rabies in Tunisia. To address this, we conducted an analysis of reported incidents in the central region of Tunisia from 2019 to 2022. This analysis aimed to generate valuable insights that can inform strategies for rabies elimination in Tunisia, highlighting the importance of the One-Health approach.

Methods: We carried out a descriptive study using surveillance data from Monastir governorate in Central Tunisia. All humans exposed to animals, residents in Monastir Governorate and declared to the regional directorate of primary health care from January 1, 2019 to December 31, 2022 were included in our study. Data were entered, cleaned, and analyzed using Excel.

Results: During the studied period, 7789 cases of human exposures to animals were reported with an annual average of 1969 ± 207 exposures per year. The annual incidence rate of exposure to animal bites was 324 per 100,000 population. The sex-ratio was 2.07 and almost one third of exposed humans were aged less than 15 years-old. The most listed offending animals were dogs (65.2%), followed by cats (24.4%). The number of exposures by unvaccinated dogs increased significantly during our study period. Post-exposure prophylaxis (PEP) was applied among 99% ($n = 7772$) of declared exposures. Among them, 2.5% ($n = 202$) did not complete the PEP recommended protocol. During our study period, rabies was confirmed in 39 animals. Two fatal human rabies cases were declared respectively in 2021 and 2022.

Conclusions: Rabies remains a worrying health problem in Tunisia with a high percentage reported among youth and males. Targeting children and adolescents by education and information campaigns about preventive measures and mass dog vaccination are the key to ending this scourge.

Key messages:

- It is crucial to reinforce preventive strategies, such as mass dog vaccination programs.
- Public awareness about rabies prevention should be enforced in order to decrease Human rabies risks.

Abstract citation ID: ckae144.1082
Sex-specific immune responses to COVID-19 vaccination in end-stage renal disease patients

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Background: End-stage renal disease (ESRD) patients have muted memory B cell formation and reduced humoral responses to COVID-19 vaccination; however, early innate immune responses have yet to be characterized. Sex-stratification is also limited in COVID-19 vaccination research.

Methods: We collected blood before (BD1) and 1-4 days post-dose 1 (PD1) of BNT162b2 vaccination for RNA-sequencing in ESRD patients ($n = 35$ BD1; 18 PD1) and healthy controls (HC) ($n = 31$ BD1; 30 PD1). Additionally, 20 plasma cytokines were quantified in ESRD patients ($n = 39$ BD1, 35 PD1) and HC (34 BD1, 15 PD1).

Results: Transcriptional profiling of vaccine responses identified 125 significantly differentially expressed genes (DEG) ($padj<0.04$) in ESRD patients and 107 DEGs ($padj<0.05$) in HC. 71 DEGs were shared, 54 unique to ESRD, and 36 unique to HC. DEG, pathway analyses, and cytokine responses in the combined dataset showed ESRD patients were more inflamed than HC at baseline, with an elevated inflammatory cytokine profile compared to HC. These results were driven by female ESRD patients where IL-2, IL-10, and IP-10 were more significant in females ($p < 0.001$) compared to males ($p < 0.01$). While IL-6, IFN-γ, IL-13, eotaxin, were exclusively associated in females ($p < 0.05$). Healthy females also had a stronger immunological response to vaccination compared to healthy males.

Conclusions: Despite baseline inflammation, ESRD patients were able to mount similar early immune responses to vaccination as HC, with females in both populations more reactogenic than males. Sex-stratification is recommended for ongoing immunological research to better understand unique responses to COVID-19 vaccination.

Key messages:

- End-stage renal disease patients have similar early innate immune responses to COVID-19 vaccination as healthy controls.
- Sex-stratification is important to identify unique immunological responses that may be leveraged for sex-specific vaccination strategies.

Abstract citation ID: ckae144.1083
CKD incidence, predictors & progression: African migrants vs. Non-Migrants (RODAM cohort study)

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Background: Limited longitudinal data exist on chronic kidney disease (CKD) in African populations undergoing epidemiological transitions. We investigated incidence, long-term predictors, and progression of CKD among Ghanaians residing in rural- and urban-Ghana, and Ghanaian migrants in the Netherlands (Amsterdam).

Methods: We analysed data from 2183 participants in the transcontinental population-based prospective RODAM-cohort, followed for approximately seven years. CKD incidence and its progression to end-stage renal disease (ESRD) were defined using KDIGO criteria. CKD incidence was calculated using age-and sex-standardization for those without CKD at baseline. Long-term predictors of CKD incidence were identified using one-step robust Poisson regression. CKD progression to ESRD from baseline was also assessed using robust Poisson regressions.

Results: Overall age-and-sex standardized CKD incidence was 11.0% (95%CI; 9.3%-12.3%). Rural and urban-Ghanaians had higher CKD incidence (12.5%;8.5%-15.5%; 12.3%;8.2%-15.8%; respectively) than Amsterdam-Ghanaians (7.6%; 5.4%-10.6%). Residence in Amsterdam was associated with lower CKD incidence compared to rural Ghana after adjustments (Incidence Rate Ratio=0.34; 0.13-0.89), but not with urban-Ghana (IRR=1.07; 0.69-1.67). CKD incidence predictors were advanced age, female sex, alcohol consumption, uric acid levels, and hypertension. CKD progression to ESRD was 2.5% (1.4%-3.6%) in rural- Ghana, 2.3% (1.3%-3.2%) in urban-Ghana and 0.0% in Amsterdam.

Conclusions: One-tenth of Ghanaians developed CKD over seven-years, with higher incidence in Ghana compared to Europe. Age, female sex, alcohol use, uric acid levels, and hypertension were predictive factors. CKD progression to ESRD was minimal. High CKD incidence among Ghanaians, especially among non-migrants, calls for in-depth assessment of contributing factors and targeted interventions.

Key messages:

- We observed higher CKD Rates in Rural/Urban Ghana vs. Amsterdam:Indicating geographic Disparities.
- CKD Predictors: Age, Sex, Alcohol, Uric Acid, Hypertension (Minimal ESRD Progression). Interventions target: Non-Migrant Ghanaians.

Abstract citation ID: ckae144.1084
Environmentally sustainable health and social care – A proposal for goals and steering for Finland

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Issue: Health and social services cause significant environmental impacts. In Finland, national steering towards environmentally sustainable health and social care has been lacking.

Description of the problem: A multidisciplinary research project (EKO SOTE 2022-2023) was designed to investigate aims and steering mechanisms for environmentally sustainable social and health care in Finland. The project aimed to propose national steering and monitoring mechanisms for stronger environmental sustainability within the sector. Data for the proposal was collected from literature, review of national legislation, interviews, surveys, and co-development events. The project also aimed to calculate the carbon footprint of Finnish health and social care with the EEIO model ENVIMAT.

Results: It was estimated that health and social care contributed to 6.5% of Finland's national carbon footprint in 2019, of which the share of health care was 4.2%. The new goal 'Social and health care is carbon neutral and minimizes the environmental burden by 2035' was proposed to be incorporated in the national strategic steering. Wellbeing service counties (WSC) as public care providers were suggested to be included as responsible actors in the Finnish Climate Act. National networks and targeted project funding for WSCs were found important. Three sets of indicators were designed for monitoring environmental sustainability: minimum indicators for all WSCs for national monitoring, voluntary indicators for regional monitoring, and indicators for advanced regions to pioneer best practices.

Lessons: According to the informants, national steering for environmentally sustainable health and social care is urgently needed. The national goal should be ambitious, wide-ranging, and feasible, and cover environmental aspects broadly. The steering requires multiple mechanisms: normative, strategic, informational, and economic. WSCs should be empowered to develop suitable means to achieve the national goal.

Key messages:

- The project provided an ambitious, feasible, and comprehensive national goal and steering model for reducing the environmental impact of health and social care in Finland.
- Collaborative efforts and joint steering model could advance environmental sustainability in health and social care.

Abstract citation ID: ckae144.1085
Beneficial clinical effects of honey from bees fed with specific plant extracts

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Background: Our team has demonstrated in a number of pre-clinical studies that special bees fed with syrups containing natural plant extracts contain a number of active substances that have beneficial effects on the human body. We have previously reported that bees fed with green walnut have beneficial effects on sugar metabolism, lowering serum glucose levels and reducing insulin resistance.

Methods: We conducted a prospective double-blind functional food study with 45 healthy volunteers using a strict inclusion and exclusion criteria with ethical approval. Participants ate 30 gramms of honey layered under 150 ml of yoghurt twice a day for 3 weeks. Fifteen participants consumed honey from bees fed with green

walnut extract, while 15 participants consumed honey from bees fed with sea buckthorn extract, and 15 participants in the control group consumed acacia honey. Sleep quality was assessed with the SQS questionnaire, and quality of life with the SF-36, EORTC Q-C30 and EQ-5D tests on days 0 and 22 of the study.

Results: Consumption of both specific honey resulted improvements in the life quality parameters and in the sleep quality. 'Buckthorn honey' showed significant differences after the 3rd week: physical function improved (25.3±0.5 vs 27.4±2.8; p = 0.04), anxiety-depression decreased (1.4±3.6 vs 1±0.3; p = 0.03), complex physical status (84.1 ±9.7 vs 88.7±6.9; p = 0. 04), while 'green walnut honey' improved EQ-5D complex quality of life (84.1±9.7 vs 88.9±6.9; p = 0.01), overall quality of life functioning (90.6±14.9 vs 99.2±4.2; p = 0.03), EORTC Q-C30 total score (467.1±30.6 vs 487.4±21.4; p = 0.03).No such positive effects were confirmed in the control group.

Conclusions: Honey from bees fed with sea buckthorn extract has many beneficial physiological effects on the human body, improving physical well-being and reducing anxiety and depression. Honey from bees fed with green walnut extract improves the complex quality of life.

Key messages:

- Improving the quality of life with nutrition is an increasingly important research field, playing a key role in our life.
- Our research has shown that honey from bees fed with green walnut and sea buckthorn extract improves several parameters in the quality of life.

Abstract citation ID: ckae144.1086
Risk factors for bicycle-related overtaking, rear-end, and door crashes in the United Kingdom

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Background: Prior studies have offered valuable insights into risk factors associated with bicycle crashes at intersections. Nevertheless, limited research focuses on investigating three types of bicycle crashes that commonly occur on road segments: overtaking, rear-end, and door crashes.

Methods: In the present research, risk factors for these three types of crashes on road segments were examined by analyzing British STATS19 reports of crashes from 1991 to 2020. We calculated adjusted odds ratios (AORs) with 95% confidence intervals (CIs) for multiple risk factors using multivariate logistic regression models. The analysis included 127,637 bicycle crashes, categorized into 18,350 overtaking, 44,962 rear-end, 6,363 door, and 57,962 other crashes.

Results: Speed limits of $\geq$ 40 miles per hour (mph) (AOR = 2.238, 95% CI = 2.159-2.320), heavy goods vehicles (HGVs) as crash partners (AOR = 2.867, 95% CI 2.473-3.323), and elderly crash partners (AOR = 2.013, 95% CI = 1.937-2.092) were significant risk factors for overtaking crashes. Notable risk factors for rear-end crashes included midnight hours (AOR = 1.269, 95% CI = 1.190-1.354) and unlit darkness (AOR = 1.486, 95% CI = 1.404-1.573). Speed limits 20-30 mph (AOR = 16.185, 95% CI = 13.514-19.382), as well as taxis and private rental automobiles (AOR = 2.695, 95% CI = 2.310-3.145), were factors associated with door crashes. Further intriguing findings from our joint-effect analysis included higher probabilities for overtaking crashes in rural regions when older drivers and HGVs were crash partners (AOR = 2.93, 95% CI = 2.79-3.08 and AOR = 2.62, 95% CI = 2.46-2.78).

Conclusions: The mentioned risk factors have remained mostly consistent since our previous study was conducted in 2011. However, current research elucidated that certain factors have become more significant under specific circumstances. For instance, in rural areas, cyclists were more likely to be involved in overtaking crashes with heavy goods vehicles as crash partners.

Key messages:

- Bicycle crash; Road segment; Door crash; Overtaking crash; Rear-end crash

Abstract citation ID: ckae144.1087
Consumption of low-calorie sweetened products and intakes of free sugar and energy among UK adults

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Background: Policies to reduce free sugar intake in the population often suggest alternative low or no sugar products that may contain low-calorie sweeteners (LCS). However, the health effects of LCS are controversial and little is known about whether free sugar and energy intake differ between people with varying levels of LCS product consumption. This study examines the associations between LCS product consumption and free sugar and energy intake in UK adults from 2008 to 2019.

Methods: Repeat cross-sectional data from the UK's National Diet and Nutrition Survey (2008/09 to 2018/19) involve 8304 adults aged $\geq$18 years (mean 48.7, SD 18.3) with 58.4% being women. Consumption of LCS products (grams/day) were obtained from 4-day diet diaries and participants were categorized into four groups (No-LCS, Low-LCS, Mid-LCS, High-LCS) based on LCS consumption tertiles in 2008/09. Linear regression analysed associations with LCS group, year, their interaction, and adjusted for sociodemographic factors.

Results: All four groups consumed free sugar (relative to total energy intake) above recommended levels (5% kcal/day) throughout the study period. In 2008/09, the mean free sugar intake for the No-LCS group was 58.1 grams/day, and the mean total energy intake was 1855.7 kcal/day, which were not significantly different from the High-LCS group. Over time, free sugar intake declined by -1.0 g/year (95%CI: -1.4, -0.6) whereas total energy intake declined by -6.0 kcal/year (95%CI: -11.4, -2.1) in the No-LCS group. The High-LCS group showed similar declines leading to no significant difference in mean free sugar and total energy intake between the No-LCS and High-LCS groups in 2018/19.

Conclusions: In this representative study of UK adults, similar levels of free sugars and total energy intake were observed among those with no LCS and those with the highest LCS product consumption from 2008 to 2019. Absence of LCS product consumption in diets were not associated with higher free sugar intake.

Key messages:

- The high level of LCS product consumption was not associated with lower free sugar intake among UK adults. These finding challenges policies promoting LCS to reduce UK adults' free sugar intake.
- The finding that UK adults consistently consumed free sugar above recommended levels highlights the ongoing need for policy interventions.

10.S. Poster walk: Maternal, child and adolescent public health

Abstract citation ID: ckae144.1088
Prediction of overweight/obesity risk in adolescence using static and dynamic multi-exposure models

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Background: Studying the risk factors for obesity development and timely identification of individuals at increased risk are key for obesity prevention. We aimed to assess the associations of multiple prenatal, infancy and childhood exposures with overweight/obesity at 13 years (y) and develop static and dynamic multiple-exposure prediction models.

Methods: In 4232 mother-child pairs from the Generation XXI birth cohort, we assessed, during pregnancy/infancy and childhood, 55 sociodemographic factors, anthropometric measures, lifestyle behaviors, and clinical exposures related to the mother and the child and categorized body mass index z-scores as normal weight and overweight/obesity at 13y. Static models for pregnancy/infancy, 4, 7 and 10y, and a dynamic model were fitted using Elastic Net and logistic regression and were compared in terms of predictive performance.

Results: Mothers with lower educational level and household income, no partner, overweight/obesity before and after pregnancy, excessive gestational weight gain, pregnancy complications and who were smokers during pregnancy had children with a higher risk of overweight/obesity at 13y. Children with higher BMI during infancy, overweight/obesity during childhood, an early introduction of solid foods (before 4 months), a higher consumption of soft drinks at 4y and females had a higher risk of overweight/obesity at 13y. We observed the lowest predictive performance for the pregnancy/infancy model (prediction error of 36%) and the highest predictive performance for the 10y and dynamic models (prediction errors of 17%).

Conclusions: We identified the most important predictors of overweight/obesity in adolescence, most of them modifiable, and able to be targeted in prevention strategies. Predicting overweight/obesity risk in adolescence might be suboptimal if only considering pregnancy/infancy data and improves as closer to the age of the outcome, with no additional benefit in using a complex dynamic model.

Key messages:

- Prevention of overweight/obesity should start during prenatal life.
- Children at higher risk of overweight/obesity may be identified years earlier using prediction models in clinical practice.

Abstract citation ID: ckae144.1089
Nocturnal Artificial Light Exposure in Expectant Mothers and Risk of Congenital Glaucoma

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Background: While the impact of light pollution on human health is gaining recognition, its role in transmitting the effects of maternal exposure to the fetus remains unclear. This study is to investigate the association between exposure to artificial light at night (ALAN) during pregnancy and risk of congenital glaucoma.

Methods: All birth cohorts spanning from 2008 to 2011 in urban areas of South Korea, comprising over 90% of the total population, were identified in the Korean National Health Insurance database. Average levels of ALAN at the residential addresses of mothers during pregnancy were estimated using time-varying satellite data for a composite view of persistent night-time illumination at ∼1 km2 scale.The odd ratios (ORs) and 95% confidence intervals (CIs) of the association between residential ALAN and risk of congenital glaucoma - was computed using logistic regression. These calculations were adjusted for socio-demographic factors and area-level risk factors (night-time traffic noise and particulate matter with an aerodynamic diameter $\leq$ 10 μm).

Results: A total of 745,458 mother-father-child trios (mean [SD] age of the mothers, 32.4 [3.8] years; 387,275 [52.0%] boy) were included in the study. In fully adjusted models, an IQR (21.8 nW/cm2/sr) increase in ALAN level was associated with an OR of 1.12 (95% CI: 1.05, 1.19) for incident congenital glaucoma. The exposure-response curve demonstrated an upward slope with a threshold at approximately 62 nW/cm2/sr.

Conclusions: In this nationwide population-based case-control study, higher levels of residential ALAN during pregnancy were associated with increased risk of congenital glaucoma. Future studies with more detailed information on exposure, individual adaptive behaviors and potential mediators are warranted.

Key messages:

- This study indicates an association between elevated levels of ALAN exposure in pregnant women and a heightened risk of congenital glaucoma in their offspring.
- These results are consistent with a growing body of evidence underscoring the detrimental effects of ALAN on health, reinforcing its potential role as a risk factor for congenital glaucoma.

Abstract citation ID: ckae144.1090
Supply of Alcohol in Early Childhood Leads to Higher Rates of Drinking in Adolescence

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Background: Adolescents often experience their first encounter with alcohol at home, provided by parents who perceive it as a means of safeguarding their children against later alcohol-related issues. However, research shows that parental supply of alcohol is a risk factor for adolescent drinking. Notably, existing studies solely focused on parental supply during adolescence, neglecting the prospective evaluation of parental alcohol provision during early childhood on later alcohol use.

Methods: The data came from the Czech part of the European Longitudinal Study of Pregnancy and Childhood (ELSPAC), a longitudinal birth cohort study ($N = 5,777$). Mothers reported on the frequency of offering alcohol to children when children were 3, 5, 7, and 11 years old. The outcome was adolescent alcohol use at ages 15 and 18, reported by adolescents, mothers, and pediatricians. Control variables included sex, maternal education, family structure, and parental alcohol consumption.

Results: Three classes of children were identified based on parental alcohol supply: abstainers (75.5% of sample), infrequent sippers (16.2%), and frequent sippers (8.3%). Parental drinking increased the risk of both infrequent and frequent sipping. These classes were entered into two structural models (age 15 and age 18 alcohol use modeled as latent factors), alongside covariates. Compared to abstainer class, infrequent and frequent childhood sippers exhibited significantly higher alcohol consumption at age 15 ($\beta = .21$, $p < .001$; $\beta = .25$, $p < .001$, respectively) and age 18 ($\beta = .11$, $p < .05$; $\beta = .24$, $p < .001$, respectively).

Conclusions: This study represents the first prospective investigation quantifying early childhood alcohol exposure and its subsequent association with adolescent alcohol consumption. Findings emphasize the influence of family dynamics on alcohol behaviors, underscoring the necessity for targeted preventive measures, particularly within families with higher parental alcohol consumption.

Key messages:

- Offering alcohol to children at ages 3-11, even infrequently, significantly increases the risk of more frequent drinking at ages 15 and 18, compared to those with no early exposure.
- Parents who drink are more likely to have children who sip alcohol early, leading to higher alcohol consumption in adolescence. Prevention efforts should focus on family habits and early education.

Abstract citation ID: ckae144.1091
Declining trends of overweight and obesity in 4-year-olds during 2007-2022 in Northern Sweden

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Background: Overweight among preschool children is a huge public health issue. The prevalence of both childhood overweight and obesity increased during the COVID-19-pandemic. Our aim was to study the development of overweight and obesity among 4-year-olds in Västerbotten, Sweden, from 2007 until 2022 with special focus on the COVID-19-pandemic and the year after.

Methods: This is a repeated cross-sectional study that utilized individual data from most 4-year-old children living in Västerbotten County, Sweden in 2007-2022, implying that the children were born 2003-2108. We included encrypted and anonymized individual anthropometrical data from the routine 4-year-old Child Health Care visit. There were 47 004 4-year-old children living in the county and we included data from 42 584 children, 21 966 boys and 20 618 girls at the age of 46-51 months.

Results: Overweight and obesity decreased over the study period. In 2007 the prevalence of overweight was 13.4% for boys and 14.9% for girls and obesity 3.7% for boys and 2.7% for girls. In 2022 the prevalence of overweight had declined to 9.5% for boys and 12.1% for girls and the prevalence of obesity to 1.8% and 2.1%, respectively. During the COVID-19-pandemic the prevalence of overweight and obesity for both boys and girls increased and then rapidly returned to the pre-pandemic level in 2022.

Conclusions: In a setting with free standardized Child Health Care, we present a clear decline in the prevalence of overweight and obesity among Swedish preschool children over time. As in other settings the prevalence of overweight and obesity increased during the COVID-19-pandemic, but we also report a rapid decline in overweight and obesity after the pandemic. It is essential to understand the underlying mechanisms responsible for this favorable trend.

Key messages:

- We present clear decline in the prevalence of overweight and obesity in preschool children over time in a setting with free standardized Child Health Care.
- It is important to understand the possible mechanisms of the favorable trend of decrease of the prevalence of overweight and obesity in children pre- and post-pandemic.

Abstract citation ID: ckae144.1092
Diabetes, hypertension, and hospitalizations during pregnancy: a multivariate analysis

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Introduction: The study analyzes the correlation between socio-demographic variables and pathologies encountered by women during pregnancy. The presence of these pathologies is recorded at the time of compiling the CAP (Certificate of Assistance for Birth).

Methods: Data analysis pertains to the Certificate of Assistance for Birth (CAP) concerning residents in the territory of AUSL South-East Tuscany in the years 2021 and 2022. The number of women of childbearing age in Tuscany in 2022 is 150,959, while the number of births analyzed in the study is 9,053. The study conducts multivariate analysis between socio-demographic variables and pathological outcomes.

Results: Controlling for age, citizenship and other factors, the risk of gestational diabetes is significantly higher ($p < 0.05$) among mothers: over 40 years old ($OR = 1.56$), with citizenship in PFPM countries ($OR = 1.60$) and particularly, compared to Italians, among women from Indian subcontinent ($OR = 3.73$) and the Maghreb ($OR = 2.04$), with lower educational levels ($OR = 1.28$) compared to graduates, obese ($OR = 2.43$). The risk of gestational hypertension is significantly higher ($p < 0.05$) among mothers: over 40 years old ($OR = 1.71$), obese ($OR = 2.50$), nulliparous ($OR = 1.60$). The risk of one or more hospitalizations during pregnancy is significantly higher ($p < 0.05$) among mothers: not employed ($OR = 1.31$) and homemakers ($OR = 1.32$) compared to employed, from Indian subcontinent ($OR = 1.82$) and the Maghreb ($OR = 1.75$) compared to Italians, with gestational hypertension ($OR = 2.06$).

Conclusions: Unlike gestational diabetes and hospitalizations during pregnancy, gestational hypertension does not show significant associations with the mother's socio-demographic characteristics. However, gestational diabetes and hospitalizations during pregnancy are correlated with different variables: they are more common among women over 40, foreigners, homemakers, with lower educational levels, obese, and with low family economic status.

Key messages:

- It has been observed that some variables are also risk factors for adult age pathologies, such as diabetes and hypertension.

- The importance of Early Childhood Development and early interventions can improve children's health and well-being.

Abstract citation ID: ckae144.1093
Use of intraoral mobile photography for screening of oral health in children

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Background: The aim of the study is to evaluate the diagnostic accuracy of intraoral mobile photography to assess caries intensity (DMFT/deft), simplified oral hygiene index (S-OHI) and modified gingival index (MGI).

Methods: Children aged 7-12 were included in the study. The clinical doctor evaluated the oral health indicators by visual examination: DMFT, deft, S-OHI, MGI were calculated. Dental students independently captured photos with a mobile phone (iPhone-11) in 8 predetermined projections. Dental images were kept in coded folders for research anonymity. Another professional calculated index based on the photos. Variables were used with binary values (DMFT/deft $= 0/\geq 1$; MGI$=0/\geq 1$; S-OHI$\leq 1.2/>1.2$). Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) of dental photography were evaluated and Cohen's Kappa was calculated to measure the level of agreement between two independent observers.

Results: 2864 photographs were evaluated for 358 participants. The sensitivity and specificity of intraoral mobile photography for DMFT index is 95.8 (95% CI: 93.4-98.3) and 89.2 (95% CI: 83-95.5); For deft index: 100.0 (95% CI: 100-100) and 88.6 (95% CI: 79.3-98); For MGI: 89.7 (95% CI: 85.8-93.5) and 91.4 (95% CI: 86.3-96.5); For S-OHI: 77.6 (95% CI: 67.6-87.6) and 93.8 (95% CI: 91-96.6); The PPV value for DMFT, deft, MGI and S-OHI is 96.2; 97.7; 95.6 and 74.3 and the NPV value is 88.3; 100.0; 80.9 and 94.8 respectively. It was achieved substantial and perfect agreement between two independent raters: For DMFT, deft, MGI, S-OHI indices Cohen's Kappa =0.85; 0.93; 0.78; 0.70 correspondingly.

Conclusions: Intraoral mobile photography, if applied within appropriate guidelines is reliable for assessing caries intensity, simplified hygiene index and modified gingival index as well as visual screening and may become a priority for dental public health. The involvement of dental students in studies of similar design is appropriate.

Key messages:

- Intraoral mobile photography can be used for oral health screening in children.
- The involvement of dental program students in screening studies conducted with intraoral mobile photography is appropriate.

Abstract citation ID: ckae144.1094
Unintended pregnancies in the context of intimate partner violence: Findings from the ELSA-Study

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Intimate partner violence against women (IPV) is a widespread problem with serious consequences for victims and for society. Women affected by IPV have an empirically proven particular risk of unintended pregnancies. ELSA "Experiences and Living Conditions of Unintended Pregnant Women - Counselling and Care Services" is the first study in Germany to analyse the connections between the situations of women and unintended pregnancies. Using an online questionnaire, women from 1) a random representative sample of residents with a child under 6 years of age and 2) a sample of 662 women from abortion facilities or counselling centres were surveyed in 2021. The data ($n = 5{,}101$) were analysed in order to compare the life situation and needs of victimized versus non-victimized women. 333 women (6.5% of the total sample; 95% CI [6.2, 7.6]) reported IPV. Victimized women had a 5.6 times higher risk for an unintended pregnancy (95% CI [4.2, 7.5]) and 3.2 times higher risk for an abortion (95% CI [2.0, 5.0]). The pregnancy was sig. more frequently the result of forced sex (CV$=$ .210***). Victims with unintended pregnancies had a sig. poorer mental health before ($t(510) = 7.081^{***}$), during ($t(510) = 5.501^{***}$) and after birth ($t(456) = 5.234^{***}$) as well as before ($t(503) = 4.905^{***}$), during ($t(224) = 3.408$) and after ($t(503) = 3.352^{***}$) abortion. They were sig. more likely to report feelings of guilt and shame (CV $=$ .182***), self-blame (CV $=$ .149***) and anxiety (CV $=$ .190***) after the pregnancy was determined and they received sig. more unsolicited information from the medical staff (CV $=$ .254**). The result shows that victimized women are in an increased risk situation in the context of unintended pregnancies. Health care professionals can play a special role in prevention and intervention. Nationwide awareness-raising training, protocols and commitment are required.

Key messages:

- The study confirms international findings on IPV and unintended pregnancies for Germany.
- There is a need for a sensitive approach within the health system to enhance prevention.

Abstract citation ID: ckae144.1095
Data-driven prediction of early language delay at Youth Health Care Services in the Netherlands

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Introduction: Language development in early childhood significantly impacts future academic success, social interaction, and emotional well-being. This study aimed to develop and evaluate a prediction model using data on developmental milestones and parents' socio-economic background known at age 2, and translate the results into an interactive digital dashboard and pilot it with Youth Health Care (YHC) professionals and parents.

Methods: A mixed-method study on retrospective cohort of children attending YHC at age 2, followed up until age 4. Data on language development, gender, parental education, and home language environment were obtained from YHC digital dossiers and linked to parental socio-economic status characteristics, and perinatal outcomes and healthcare costs using a secure remote access environment of Statistics Netherlands. Random forest and logistic regression models were computed with language development at age 4 as an outcome, initially using all available data at age 2 as predictors and then with a restricted model using variables readily available in YHC settings. Models performance was assessed using sensitivity, specificity, and AUC value. Results were visualized through an interactive dashboard and pilot-tested in simulated consultations.

Results: Among 9,148 children, 13.2% had language development delay at age 4. The full model had an AUC of 0.78, while the

restricted model (gender, parental education, language environment, and language development), achieved an AUC of 0.77. YHC professionals and parents recognized the value of individualized, data-driven risk assessment for potential language delay to stimulate the discussion of preventive interventions.

Conclusions: A good quality prediction model for language development at age 4 can be derived from just a few background characteristics of the child and parents at age 2. The digital dashboard presents a practical approach of integrating prediction model results into daily YHC practice.

Key messages:

- Language development at age of 4 can be predicted as early as age of 2 using just a few background characteristics of child and parents, which presents a window of opportunity for prevention.
- The digital dashboard presents a practical approach of integrating prediction model results into preventive care practice.

Abstract citation ID: ckae144.1096
Maternal education and antenatal attendance in Georgia: A cohort study

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Background: Antenatal care (ANC) and maternal education are important determinants for maternal and newborn health outcomes. Understanding the impact of maternal education on ANC is crucial.

Purpose: To examine the association between maternal education and ANC attendance.

Methods: A retrospective cohort study utilized nationwide electronic medical birth registry data (2020-2022) in Georgia. the study includes pregnant women and their newborns. A randomized sample was selected, and extracted variables included maternal age, parity, body mass index, education, year of delivery, gestational age, infant sex, Apgar score, birth weight, delivery type, and newborn status. Statistical analysis via IBM SPSS v23 involved chi-square, t-tests, and logistic regression.

Results: The sample size contains 4976 mothers after excluding cases with missing data (n = 25). The mean maternal age was 30.5 years (SD = 5.4), with a mean BMI of 28.0(SD = 4.8), and the mean gestational week was 38.4(SD = 2.0), with a mean birth weight of 3263.0 (SD = 568.0) grams. Highly educated women had more than 3 times higher odds (OR = 3.636,95%CI:2.575-5.134) of having at least one ANC visit compared to those with Unknown education. primiparous women had significantly higher odds of having at least one ANC visit compared to Multiparous women, OR = 1.519, (95%CI:1.081-2.135). The chi-square test showed significant difference between ANC visits and the number of liveborn/stillborn ($\chi^2 = 53.026$, $p < .001$). Moreover, there was a significant association between birth weight categories and ANC visits ($\chi^2 = 167.095$, $p < .001$).

Conclusions: Our study emphasizes the role of education in improving access to ANC among women with low education levels. We can increase ANC visits and improve maternal and newborn health outcomes by focusing educational efforts on pregnant women. Additionally, focusing on high-risk populations, and using tailored interventions can further improve ANC attendance along with maternal and neonatal health.

Key messages:

- Boosting ANC access and improving maternal and neonatal health by tailored community programs.
- Conservative communities and underrepresented communities require additional resources to promote tailored healthcare. and extra effort in education about ANC.

Abstract citation ID: ckae144.1097
Reduced physical activity in youth during the COVID-19 pandemic: systematic review and meta-analysis

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Background: Emerging research suggests that physical activity among children and adolescents decreased during the COVID-19 pandemic. As a summarizing analysis of changes in youth's physical activity for Europe is lacking, we performed a systematic review and meta-analysis to close this research gap. Amongst others, we examined the relevance of restriction stringency policies and potentially vulnerable groups.

Methods: In consideration of the PRISMA statement, we searched seven databases and included studies for children and adolescents (≤19 years) of the WHO European Region that compared physical activity during the pandemic with a pre-pandemic baseline using validated measurement instruments. We used the Oxford Stringency Index as an indicator of restriction stringency. Screening for eligibility, data extraction, assessment of the study risk of bias (using ROBINS-E instrument) and certainty grading of evidence (using the GRADE approach), were all done in duplicate. Data were pooled in random effects models (Trial registration: PROSPERO: CRD42023395871).

Results: Of 14,897 non-duplicate records, 26 publications (n = 15,038 pre-pandemic, n = 13,041 during pandemic) met our inclusion criteria. Comparison before vs during the COVID-19 pandemic revealed a significant reduction in total physical activity (standardized mean difference [SMD], -0.57 [95% CI, -0.95; -0.20]) and moderate-to-vigorous physical activity (SMD, -0.43 [95% CI, -0.75; -0.10]), corresponding to a decrease of 12 min/day (a 20% reduction of the WHO recommendation). Subgroup analyses suggested that children aged 8-12 were particularly affected. The analyses outline a possible association between school closures and more reductions in physical activity.

Conclusions: A sharp decline in all forms of physical activity was recorded among European children and adolescents during the COVID-19 pandemic, particularly in middle childhood. Policy-makers, teachers and practitioners must act to reverse this decline.

Key messages:

- Physical activity in European children & adolescents decreased significantly during the COVID-19 pandemic.
- Immediate action by policy-makers and practitioners is imperative to reverse this trend.

Abstract citation ID: ckae144.1098
Persistent organic pollutants and developmental trajectories of ADHD symptoms: The Rhea cohort study

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Background: Prenatal exposure to persistent organic pollutants (POPs) has been linked to elevated symptoms related to attention deficit hyperactivity disorder (ADHD) in a few studies, but findings remain inconclusive. We aimed to explore how prenatal exposure to POPs affects the developmental course of ADHD symptoms from early childhood to adolescence in the Rhea cohort in Crete, Greece.
Methods: We determined concentrations of HCB, DDE, and PCBs in first-trimester maternal serum. Child ADHD symptoms were reported by mothers using the ADHD Test at 4 years and the Conners' Parent Rating Scale at 6, 11 and 15 years. Group-Based Trajectory Modeling was used to classify 551 participants into 4 distinct groups: Stable low (60.1%), Stable high (9.6%), Low-increasing (14.6%), and High-decreasing (15.7%) symptoms. Adjusted multinomial regression models were applied to assess the risk of being grouped into an adverse developmental trajectory as compared to the reference group (stable low), in relation to prenatal POP exposure in 465 children. The analyses were performed in sex-specific manner.
Results: Prenatal HCB exposure was associated with elevated risk of being grouped in the stable high ADHD symptoms trajectory only in girls (RRR [95%CI]: 2.0 [1.04, 3.82]). Overall, exposure to DDE and sum of PCBs was linked to decreased risk of membership in an adverse ADHD symptoms trajectory. More specifically, in utero exposure to DDE and sum of PCBs was associated with lower risk of being grouped in the low-increasing trajectory for boys (RRR [95%CI]: 0.7 [0.54, 0.95] and 0.5 [0.32, 0.88], respectively) and in the high-decreasing symptoms group for girls (RRR [95%CI]: 0.6 [0.44, 0.84] and 0.5 [0.30, 0.93], respectively).
Conclusions: The findings suggest that prenatal exposure to HCB is linked to increased risk of stable high ADHD symptoms from preschool age and up to adolescence. The association was pronounced only in girls, a group for which less is understood in relation to ADHD.
Key messages:

- Prenatal exposure to HCB increases the risk of persistently high ADHD symptoms from preschool age to adolescence.
- The impact of prenatal HCB exposure on ADHD symptoms is evident in girls.

Abstract citation ID: ckae144.1099
Psychosomatic complaints at age 15-16 and subsequent depression and anxiety disorders

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Background: In recent years, the prevalence of self-reported mental health issues such as psychosomatic complaints has risen among adolescents in several countries, including Sweden. Despite this trend, a gap in the understanding remains regarding the implications of these complaints, including their ability to predict more severe mental health conditions. Depression and anxiety represent common mental health disorders among youth today, significantly affecting daily functioning. In light of this, the current study aims to investigate the association between self-reported psychosomatic complaints at age 15-16 and the likelihood of being diagnosed with depression or anxiety by age 20.
Methods: Data was drawn from Futura01, a cohort study of Swedish adolescents who attended grade 9 in 2017 (n = 5,225). Information on psychiatric diagnoses was obtained from the Swedish National Patient Register. Psychosomatic complaints were captured through self-reported frequencies of headache, stomach ache, and difficulties falling asleep, which were aggregated into an index (ranging from 3-15). Covariates included sex, parental education, parental country of birth, family type, and prior diagnoses of ADHD, depression, and anxiety. Binary logistic regression analyses were performed.
Results: The findings show that higher levels of psychosomatic complaints at age 15-16 were prospectively associated with increased odds of being diagnosed with depression (OR = 1.28, 95% CI 1.22-1.34) as well as anxiety (OR = 1.30, 95% CI 1.25-1.35) by age 20, even after adjusting for prior diagnoses and other covariates.
Conclusions: This study highlights the potential for psychosomatic complaints during adolescence to act as early indicators of future mental health disorders. Recognising the importance of these complaints and implementing public health interventions targeting mental health issues among youth could help improve mental health outcomes in late adolescence and young adulthood.
Key messages:

- Adolescents reporting frequent psychosomatic complaints at age 15-16 were more likely to receive subsequent specialised care due to a depression or anxiety diagnosis in a Swedish sample.
- Interventions directed at youth experiencing frequent psychosomatic complaints may have a beneficial impact on their future mental health outcomes.

Abstract citation ID: ckae144.1100
An intergenerational study of mental health among parents and adolescents

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Background: The aim of this study was to examine the association between parents' mental disorders and adolescents' self-rated health, using both subjective and objective assessment of parents' mental health status.
Methods: This cohort study was based on the Danish Future Occupation of Children and Adolescents cohort. Study population 25,891parents (biological parents or registered guardians) linked to 13,067 adolescents. Survey data were merged with register data on parent mental health, and logistic regression was used to analyse association between the register- and self-report data on parents mental health, and self-rated global health among their offspring.
Results: Adolescents' self-rated health was associated with their parents' mental disorders, showing an unadjusted OR of 1.5 (95% CI 1.4-1.6) when assessing parental mental disorders using ICD-10

diagnoses and an unadjusted OR of 2.0 (95% CI 1.8-2.2) when using the adolescents' self-reported measure on the parental mental disorder. Adjustment for adolescents' sex, adolescents' mental disorders during childhood, parental education, and parental labour market attachment led to a decreased association between parents' mental disorders and adolescents' self-rated health in both analyses with an adjusted OR of 1.2 (95% CI 1.1-1.4) when assessing parents' mental disorders using ICD-10 diagnoses and an adjusted OR of 1.8 (95% CI 1.6-2.0) when using the adolescents' self-reported measure on parental mental disorder.

Conclusions: This study documents a clear pattern in mental disorders across generations and that parental labour market attachment as well as mental disorders in earlier life phases are risk factors for developing mental disorders in adolescence. The results point to the importance of public health interventions aimed at the more vulnerable group of adolescents, where mental health problems are observed over two generations.

Key messages:

- There is a clear pattern in mental disorders across generations.
- Parental labour market attachment are risk factors for developing mental disorders among their offspring.

11.R. Poster walk: Social security, work and health

Abstract citation ID: ckae144.1101

Alcohol intake and patterns of multi-site musculoskeletal pain in the British Whitehall II study

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Background: Patterns of multi-site musculoskeletal (MSK) pain and its relationship with alcohol drinking among white-collar employees and retirees remain unclear compared to blue-collar workers. This study aimed to examine the relationship between alcohol drinking and MSK pain through latent class analysis (LCA) in current and retired white-collar employees.

Methods: We used the data from the 7th phase (2000-2002, n = 6,967, response rate 71.6%) of the British Whitehall II study, chosen for its availability of MSK items and approximately 1:1 ratio of employees to retirees, allowing for an evaluation of the relationship between alcohol drinking and MSK pain by employment status. LCA was used to distinguish patterns of multi-site MSK pain. A multinomial logistic regression model was used to examine the association between alcohol drinking and the identified pain patterns, with analyses conducted separately for employees and retirees.

Results: We identified five latent classes for pain (back/cervical: 7.1%, cervical: 28.9%, upper limb: 29.4%, combined LBP/upper limb/cervical: 13.2%, and LBP alone: 21.5%). Increased alcohol intake might be associated with elevated odds of upper limb pain in current drinkers, but this could not be statistically confirmed (OR: 1.04, 95% CI: 0.99-1.09). Employment status may modify the association with a significant interaction found between alcohol intake and retirement (p-value: 0.043). Every 7-unit increase in alcohol intake is associated with 18% and 12% higher odds of pain in LBP/UBP/cervical and upper limbs, respectively (95% CI: 1.02-1.37; 1.02-1.23).

Conclusions: Increased alcohol intake was associated with pain patterns only among retired white-collar employees but not the current ones. Interventions on alcohol consumption could help confirm if, reducing alcohol intake or avoiding hazardous drinking, for white-collar retirees prevents not only upper limb pain but also more complex pain patterns.

Key messages:

- Musculoskeletal pain in white-collar employees and retirees contributes to the cervical and upper extremities, differing from low back/neck pain studies among general or blue-collar workers.
- The association between alcohol drinking and pain patterns may differ across employment status. Reducing alcohol intake might be advised to retired drinkers for preventing multi-site pain.

Abstract citation ID: ckae144.1102

Novel approach to combining interview and register data – Case: social security and pediatric cancer

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A parallel examination of interview data and register data provides a more holistic overall picture of social security needs and use than any one type of data alone. In our study, we aimed to build a comprehensive understanding of the benefit and service needs of parents whose child is diagnosed with cancer. Conducting solely interviews would have provided subjective perceptions of individuals in the midst of a challenging life situation, but the data would have lacked information of the participants' documented use of social security benefits and services. On the other hand, utilizing solely register data, would have provided an objective overview of actual service use. However, register data alone would not have shed light on whether the benefits and services received were sufficient from the recipients' point of view. In our study, parents' interviews and their register data from the Social Insurance Institution of Finland (Kela) offered complementary perspectives on the same life situation. Parents' interviews provided information on support needs, service experiences as well as service deficits. The same families' register data was used with their permission producing exact data on the insurance benefits and services that the family had applied for and received. The interviews were analysed as chronologically progressing narratives while the data received from Kela was depicted on timelines. When conjoined, the interview and register data formed a comprehensive picture of the benefit and service needs and use of families, whose child had cancer. In addition, this kind of triangulation revealed service deficits that were acknowledged by the interviewees and identified also through the register data. We argue, that combining subjective interviews together with institutional register data allow researchers to identify issues in the service system, which require improvements from the recipients' and the system's perspective.

Key messages:

- The use of multiple types of data allows researchers to construct a holistic understanding of individuals' social security needs and use.

- Combining interview and register data allows researchers to identify issues in the service system, which require improvements.

Abstract citation ID: ckae144.1103
Health as predictor of unemployment. A population based study in Belgium

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Background: Health and employment are interrelated, but this can be both the result of social causation and health selection. Insights in the association between health and employment should be explored in different settings and countries because contextual factors may differ. In this study we investigate if at the Belgian population level, ill health leads to a higher risk of unemployment.

Methods: We used data from the Belgian health interview survey 2018 linked with administrative data from the compulsory health insurance including information on employment status in 2018 and 2019. The sample for this study consisted of people with a paid job, aged 18-64 year, with no record of having being unemployed in 2018 (n = 3769). Multivariate logistic regression was used to assess if the risk of becoming unemployed in 2019 varied in function of the health status assessed in the 2018 survey.

Results: After adjustment for age, sex, education and social support, the risk of becoming unemployed was significantly higher for people with moderate to very bad self-rated health compared to those in good health (OR 2.76; 95% CI 1.34-5.67). Similarly, unemployment in the year following participation in the survey was significantly higher among people with activity limitations because of health problems (OR 2.32; 95% CI 1.14-4.72). The higher the number of chronic diseases and conditions, the higher the risk of unemployment (OR 1.37; 95% CI 1.13-1.53). Specific predictors of unemployment were a history of serious depression in the past 12 months (OR 4.47; 95% CI 1.85-10.80) and hypertension (OR 2.54; 95% CI 1.08-6.00).

Conclusions: In Belgium, health problems are a risk factor of getting unemployed. Especially people with a history of serious depression in the past year have a higher risk to lose their job. The findings confirm the health selection of unemployment and the need for the labour market to invest in interventions to support people with health problems to keep or find a job.

Key messages:

- As employment is a fundamental right, also for people with health problems, further efforts are needed to create an inclusive labour market, with also job opportunities for more vulnerable people.
- To be able to understand better the link between health and unemployment at population level, longitudinal population data are needed including both dimensions.

Abstract citation ID: ckae144.1104
Health care and social benefits among long-term unemployed

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Background: There is limited knowledge on the diverse pathways behind long-term unemployment. It is considered that impaired health may lead to exclusion from working life, and that unemployment together with financial difficulties may impair health. In this study, we identify different pathways behind long-term unemployment, and analyse differences in health care and social benefits use based on the diverse pathways. This study contributes to the early identification and supportive efforts for those in risk of labour market marginalisation.

Methods: Those who had been mainly unemployed in years 2020 and 2021 were identified among all working age (18 to 64 years) Finnish citizens. Register data from Statistics Finland, the Social Insurance Institution of Finland and THL were combined for the analysis. Sequence analysis was conducted for individuals with main activity information for each observation years from 2013 until 2021 (n = 72,485, age 26 to 64 in year 2021).

Results: Those unemployed for two years were on average 49 years of age (38% women). Five clusters were identified based on the main activity over the nine observation years: unemployed (54%), students (3%), employed (23%), inactive (10%) and those returned to unemployment (10%). Health care attendance was most frequent among those in cluster inactive. Mental health diagnoses were most common among those in clusters inactive and students. Share of those with musculoskeletal diagnoses doubled from 2013 until 2021 among the previously employed. Yearly percentage of those with sickness absence (>10 days) varied from 5 to 13% based on a cluster and a year. Share of recipients of basic social assistance was relatively stable throughout the years in all clusters being highest among inactive (50 to 60%) and lowest among students (6 to 18%).

Conclusions: Information on labour market background might be useful for preventive efforts and while developing services and social security for those in long-term unemployment.

Key messages:

- There exists diverse backgrounds behind long-term unemployment.
- Labour market background should be considered while developing services for those in long-term unemployment.

Abstract citation ID: ckae144.1105
Sick-leave trajectories among people sickness absent with stress-related diagnoses; cohort studies

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Background: Stress-related disorders are common sickness absence (SA) diagnoses in many Western countries. Knowledge of SA and disability pension (DP) patterns among people with such SA is needed. Thus, the aim was to identify future SADP trajectories among people with a new SA spell due to stress-related diagnosis and to examine sociodemographic and health-related factors associated with identified trajectories.

Methods: Using microdata from nationwide registers, we included all people living in Sweden with a new SA spell >14 days due to stress-related diagnoses (ICD-10 code F43) in 2011 (N = 32,417) or 2018 (N = 65,511), respectively. These two cohorts were followed prospectively for 13 months from the SA spell start, to identify trajectory groups of mean SA/DP days/month using group-based trajectory modeling. We used multinomial logistic regression to explore associations between sociodemographic and health-related predictors and trajectory membership.

Results: We identified the following SA/DP trajectories in both cohorts: steep drop (30.6% and 35.9% of all included in 2018 and 2011, respectively); fluctuating (8.7%, 11.2%); fast decrease (25.5%, 24.4%); medium decrease (18.1%, 13.1%); slow decrease (10.8%, 7.3%), and constant high (6.2%, 8.0%). Compared to the steep drop trajectory, individuals in the other trajectories were more likely women, older, and had prior SA/DP or secondary outpatient healthcare visits. Starting the SA spell full-time was the strongest predictor for the slow decrease and constant high trajectory, and previous SA or diagnosis of other mental disorders were predictors of the constant fluctuating and constant high trajectory.

Conclusions: The similarity of the identified trajectories in the two cohorts is a strength. The results reveal the diversity of future SA/DP in this patient group, indicating the importance of identifying patients at risk of long-term SA who might need further interventions early in the process.

Key messages:

- In two population-wide cohorts with a new sickness absence (SA) spell with stress-related diagnoses, six trajectories of SA/disability pension days were identified during the 13-month follow-up.
- Most of those in the cohorts had trajectories that ended with no SA/DP after 13 months, while two trajectories, including 15-19% of individuals, showed high or varying SA/DP days during the follow-up.

Abstract citation ID: ckae144.1106
The relationship between mental health and employment: a systematic review of cohort studies

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Background: Knowledge on the bi-directional association between employment status and mental health is important, as it affects multiple dimensions of our daily lives, both at the individual and societal level. Given that the mental health status and employment situation of individuals are likely to change over time, there is an important need for longitudinal data to better understand causality patterns in this association and the underlying mechanisms.

Methods: A systematic review was carried out based on the PRISMA guidelines in 3 electronic databases: PubMed, Embase, and PsycInfo. Studies eligible for inclusion were cohort studies, involving the general population, and assessing the relationship between employment status and mental health longitudinally.

Results: In total, 3,733 studies were identified and 36 met the inclusion criteria. The eleven studies focusing on the social causation hypothesis highlighted the negative long-term impact of unemployment and unstable employment on mental health. Four studies observed mental health improvements upon re-entering employment, although limited and in more specific contexts. The fourteen studies focusing on the health selection hypothesis found a lower probability for individuals with mental health problems in finding and maintaining employment. Finally, the eleven studies assessing the two hypothesis simultaneously found that mental health problems were both a consequence of and risk factor for poor employment status, although some important moderating factors, such as gender differences, influence the direction and strength of the association.

Conclusions: This review underscores the bi-directional association between the employment status and mental health of individuals, highlighting the need to develop targeted prevention (e.g. mental health support in the workplace) and interventions strategies (e.g. supported employment programs) in both the mental health and labor market systems.

Key messages:

- The bidirectional link between employment and mental health highlights the need for concurrent responses to break the vicious cycle between poor mental health and social exclusion.
- To reduce the clinical and social burden of mental health problems, gender differences must be taken into account in mental health and employment support practices and policies.

Abstract citation ID: ckae144.1107
Longitudinal associations of daily activities and presenteeism among teleworkers in Japan

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Objectives: Many workers had to switch their standard work from the office to home-based telework during the COVID-19 pandemic. Previous studies reported that telework was associated with increased sickness presenteeism. Several studies have examined the association between lifestyle behaviors and presenteeism among workers. However, there are few studies investigating the relationship among teleworkers. Thus, this study examined the association between daily activities and presenteeism in a longitudinal cohort of teleworkers in Japan.

Methods: A prospective cohort study with a two-year observation was conducted. The participants were 831 workers belonged to five companies in Japan. For both surveys, self-administered questionnaire surveys on daily activities and presenteeism were conducted. Presenteeism was assessed using the short-form Japanese version of the World Health Organization Health and Work Performance Questionnaire. The data were analyzed using a generalized estimating equation approach, controlling for potential confounders such as age, gender, working hours, position, and health status.

Results: 742 participants who teleworked in both surveys with no missing answers were analyzed. Among male workers ($n = 427$), chatting ($\beta = 5.30$, 95% CI: 1.52-9.07) and setting daily goals ($\beta = 4.16$, 95% CI: 1.52-9.07) were associated with decreased presenteeism. Among female workers, exercise ($\beta = 4.33$, 95% CI: 0.95-7.71) was associated with decreased presenteeism.

Conclusions: Although gender differences were observed, there is preliminary evidence from longitudinal studies that frequent activities such as chatting, setting daily goals, and exercising may protect against presenteeism among teleworkers. Our findings could be used to educate daily telework activities to prevent sickness presenteeism.

Key messages:

- Daily activities during telework may worsen or improve presenteeism.
- Social isolation may be an important indicator of presenteeism during telework.

Abstract citation ID: ckae144.1108
Subtle Biases Towards a New Colleague Depend on Sexual Orientation and Relationship Status

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Background: Allonormative beliefs entail the idea that all people desire sexual activity with other people. Single and/or asexual individuals may face social disapproval or discrimination for not being in line with allonormative beliefs. The present study investigated whether individuals offered help or were likely to befriend a new co-worker differently depending on the co-worker's sexual orientation (i.e., heterosexual vs. asexual) and relationship status (i.e., in a relationship vs. single).

Methods: The online study included 1,028 participants (50.0% women and 50.0% men; Mage = 29.2, SD = 8.8) from German-speaking countries. Each participant read one of twelve short descriptions of a working situation in which they got to know a new co-worker. The description of the new colleague's gender, sexual orientation, and relationship status varied. Participants had to indicate how likely they would share information with, befriend, gossip about, or have other-interests in the new colleague. A multivariate analysis of co-variance was calculated.

Results: Female participants had lower intentions to share knowledge with persons who were singles by circumstance than with persons in a relationship and male participants were more likely to befriend a single gay man by choice than a gay man in a relationship.

Conclusions: Bias against single persons or prejudice resulting from heteronormative beliefs might lead to subtle differences in behavior towards a co-worker. Such subtle "micro-practices" can be harmful because micro-practices accumulate over time and situations. Interventions at organizations need to help employees realize their own biases that might be based on prejudices against people with different sexual orientations and relationship statuses.

Key messages:

- Overall women are more pressured by allonormative ideas and might therefore have lower intentions to share knowledge with persons who were singles by circumstance than with persons in a relationship.
- The differing treatment of single gay men by choice and gay men in relationships may not be solely due to adherence to allonormativity, but rather could stem from heterosexist beliefs.

Abstract citation ID: ckae144.1109
Deployment of in-body wearable devices in healthcare and at work: closing the EU regulatory gap

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Background: In-body wearable devices can protect workers' health and safety. Moreover, they might provide data that could be capitalized on in the context of the European Health Data Space (EHDS), which aims at fostering a single market for medical devices and high-risk AI systems. Yet, neither EU legislation nor national law regulates the use of in-body wearables at the workplace and the related data protection and safety issues. This regulatory gap impacts on workers' rights.

Methods: The study explores whether the EU regulatory framework used in the healthcare sector for medical devices could fit the in-body wearables' application in employment. The legal and policy analysis takes the perspective of workers' rights and discusses the application of a key GDPR principle: lawfulness. The research discusses the potential transformations in the EU health data protection framework that could close the regulatory gap.

Results: The EU regulatory framework for medical devices (focused on product safety, performance, and quality) is not equipped to address the data protection challenges linked to the use of in-body wearables for occupational health and safety purposes. The GDPR's principle of lawfulness and the related guidance by EU and national data protection authorities lack clarity on employers' possibilities to apply in-body wearables for occupational health purposes. Filling the regulatory gap is conducive to appropriate qualification and risk-based classification of in-body wearables, which affect pre- and post-market requirements and impact on data protection.

Conclusions: a. The EU legislator could use its social policy competence to regulate the use of in-body wearables to protect workers' health while safeguarding their data. b. EU authorities should clarify whether and how the data collected by in-body wearables at the workplace could be shared and (re)used within the EHDS. c. Further input by data protection authorities is needed to close the regulatory gap.

Key messages:

- The EU should regulate the use of in-body wearables to protect workers' health and safety.
- Health data gathered through the application of in-body wearables at the workplace may be an asset for the EHDS.

Abstract citation ID: ckae144.1110
Demographic, socioeconomic and lifecourse risk-factors for internalized weight stigma

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Background: Obesity is highly stigmatized, with negative obesity-related stereotypes widespread across society. Internalized weight stigma (IWS) is linked to negative outcomes including poor mental health and disordered eating. Previous evidence examining population groups at higher risk of experiencing IWS comes from small, nonrepresentative samples. Here, we re-assess previously reported associations of IWS with social factors in a large general population birth cohort study for the first time.

Methods: In the Avon Longitudinal Study of Parents and Children (ALSPAC), we explored differences in IWS at age 31 years by sex, ethnicity, socioeconomic factors, and sexual orientation using multivariable regression. Using data collected over a 32-year period, we explore the impact of family, peer, and wider social influences in adolescence, and bullying from mid-childhood to adulthood, whilst minimising risk of recall bias.

Results: In models adjusted for potential confounders and BMI in childhood, adolescence, and adulthood (N = 4060), IWS was higher for females (0.56 S.D. higher, CI:0.50-0.61), sexual minorities (0.17 S.D. higher, CI:0.09-0.24), and less socioeconomically advantaged individuals (0.16 S.D. higher (CI:0.08-0.24) for those whose mothers had minimum or no qualifications, compared to a university degree). The social environment during adolescence and young adulthood was important: IWS was higher for people who at age 13 years felt pressure to lose weight from family (0.13 S.D., CI:0.03-0.23), and the media (S.D. 0.17, CI:0.10-0.25), or had experienced bullying (0.25 S.D., CI:0.17-0.33 for bullying at age 23 years).

Conclusions: Internalized weight stigma differs substantially between demographic groups, and this is not explained by differences in BMI. The family environment during adolescence, bullying, and pressure to lose weight from the media may have long-lasting impacts on adult IWS. These may be fruitful avenues for intervention to reduce IWS and its consequences.

Key messages:

- Females, sexual minorities, and socioeconomically disadvantaged adults are at greater risk of IWS irrespective of BMI.
- To reduce IWS, interventions should improve the family and social environment.

Abstract citation ID: ckae144.1111

Workplace health promotion in the German Federal Armed Forces-Economic analysis and health benefits

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Background: In the German Federal Armed Forces (GFAF) workplace health promotion measures (WHPM) are implemented since 2015 to promote the health of military and civilian employees and thus improve the ability to defend state interests. Here the aim is to evaluate the social and health benefits associated with WHPM in relation to expenditures for WHPM.

Methods: Calculations are based on data from departmental reporting (full survey) on WHPM, the number of participants and days of incapacity for work (DIW). Mean indirect costs for the WHPM participation and DIW were calculated as 249.33 Euro per DIW. To assess the costs for the use of health care services and social and health benefits a longitudinal observational study (T0: 06-09/2022; T1: 06-09/2023) was conducted online and paper based. The survey invitation was addressed to 223.967 employees of the GFAF. Statistical analyses were performed using R software.

Results: In departments offering WHPM the chance of DIW is lower (-19%) compared to departments without WHPM offers and in case of DIW, the duration is shorter (-10%). In T0 23.568 (10.5%) and in T1 14.059 (6%) employees participated. 63.9% (T1: 3.070/4.805) reported positive effects of WHPM on their working ability and general health status (T1: 63.0% (3.013/4.782)). Of those participating in WHPM 81% (T0: 5.442/6.716) would recommend the GFAF as an employer. A number of 4.540 employees participated in both surveys, of which 2.249 participated in WHPM. The average costs per employee participating in WHPM compared to employees not participating are 0,4% higher (T0; T1: 3,5%) and thus almost equal.

Conclusions: Although WHPM need expenditures, the total costs per employee participating and not participating in WHPM are comparable. WHPM participants report better self-rated health status, higher working ability and commitment to the employer than non-participants. The chance of DIW is reduced in departments offering WHPM to its employees.

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Key messages:

- Although WHPM need expenditures, the total costs per employee participating and not participating in WHPM are comparable.
- Employees participating in workplace health promotion measures report higher working ability and commitment to the employer.

11.S. Poster walk: Digital health and Artificial Intelligence 2

Abstract citation ID: ckae144.1112

Marketing or health promotion? A citizen science study of social media influencers' health content

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Background: Social media influencers (SMI) became the dominant source of health information among adolescents, exerting influence through appealing content and para-social relationships. Personalized social media feeds of adolescents paired with latent platform algorithms result in myriads of individual information environments, which remain closed to researchers. Citizen science offers a solution to peek inside this black box and identify: What health content is disseminated by social media influencers and consumed by adolescents?

Methods: The citizen science study adopted a contributive approach, where adolescents collected and categorized SMI profiles and posts from their own feeds with a pre-tested survey tool which was available on Google Tabs. Data collection was conducted on Instagram, TikTok, and YouTube between April and May 2023 and subsequently analyzed by the research team.

Results: The study involved 19 school classes, containing 326 students, aged 12 to 19 years. They documented 255 SMI profiles and 2147 posts, primarily on Instagram and TikTok. Key topics included fitness, beauty ideals, and nutrition, while mental and sexual health received less attention. Although 41.5% of the posts contained advertising, the citizen scientists classified 63.5% as health-promoting. Topics relating to dietary supplements (84.1%), addictive substances (55.6%), nutrition (53.8%) and sport (47.2%) were particularly ad-heavy. Despite mental and sexual health having the lowest advertising rates at 35.4% and 37.7% respectively, this still accounts for over one third of the documented posts.

Conclusions: SMI present a distorted image of health that emphasizes nutrition, fitness and beauty ideals, while topics such as mental and sexual health are neglected. The positive reception of posts containing ads indicates a lack of critical reflection. Policies for advertising practices and balanced health education, including media literacy, are necessary to address these trends.

Key messages:

- Social media influencers propagate a distorted health image, defined by nutrition, fitness, and beauty ideals.

- Adolescents lack the necessary skills to critically reflect on ad littered social media influencer health content.

Abstract citation ID: ckae144.1113
Exploring Electronic Personal Health Record usage in Northern Italy: a cross-sectional study

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Background: The Electronic Personal Health Record (EPHR) is a patient-centered tool that enables citizens to manage their health information. The EPHR has been implemented worldwide, including in Italy, and holds immense potential, but it has shown a generalized underutilisation. Therefore, this paper aims to identify its fulfillment and the reasons behind its poor use, potentially uncovering the key to unlocking its benefits.

Methods: A survey was distributed on social media and in the waiting rooms of vaccination facilities in a Region of Italy. Multivariable regression models were conducted to detect a connection between the general population's usage of the EPHR and specific independent variables.

Results: Of the 1634 respondents, 710 activated the EPHR, especially women, Italians, highly educated, unemployed, with good health but affected with chronic diseases. Amongst those who activated the EPHR, the multivariate analysis showed that the number of accesses to the platform was significantly associated with lower age (adjusted Odds Ratio (adjOR) 0.96 $p = 0.015$), higher level of education (adjOR 2.17 $p = 0.029$), unemployment (adjOR 5.61 $p = 0.008$) and considering the information on the EPHR complete (adjOR 3.83 $p = 0.001$). As age increases, the perceived ease of access to the EPHR decreases (adjOR=0.98 $p = 0.049$). Having a higher level of education (adjOR=0.41 $p = 0.042$), autonomy in reading health materials (adjOR=0.32 $p = 0.043$), and less self-confidence in filling out medical forms (adjOR=0.61 $p = 0.033$) were linked to a decrease in perceived ease of access.

Conclusions: The study showed that the EPHR is more utilised by specific categories of citizens, especially the young and those with higher education. More efforts should be made to increase access to the EPHR for the whole community by making it more intuitive and user-friendly. The present study provides valuable foundations to foster the implementation of a platform for sharing health data at a European level.

Key messages:

- The Electronic Personal Health Record (EPHR) is underutilised despite its potential; it's mainly accessed by young and highly educated individuals.
- Efforts to increase EPHR usage must focus on improving accessibility and ease of access, as well as enhancing user confidence and autonomy in managing health information.

Abstract citation ID: ckae144.1114
Managing a 4000-participant cohort with a novel mobile app: data from the RisCoin study in Germany

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Issue: RisCoin, a prospective monocentric longitudinal observational study, aimed to identify risk factors for COVID-19 vaccine failure. Secondary aim is to monitor symptoms, SARS-CoV-2 infection, vaccination status of 3816 enrolled healthcare workers (HCW) and 180 patients with inflammatory bowel disease (IBD). Since the LMU University Hospital Munich served both as study sponsor and employer of the HCW, a secured approach was required.

Description of the solution: Participants accessed the study app (CentraXX, KAIROS GmbH, Germany) via pseudonymized Contact-ID with irreversible anonymization after 6 months. Key app features were the serological results report, bidirectional messaging, and weekly survey for self-reported data on vaccinations, infections, and symptoms. Active app use was defined as submitting >1 weekly survey during the study period 10.2021-12.2022.

Results: Over 15 months, our study team maintained 1964 two-way communications with 958 participants via the app. Of 3979 participants with app access, 3622 (91%) were active users, 2606 (65%) submitted 1 to 11 surveys, 1016 (26%) made ≥12 submissions (P75, "frequent users"). Frequent users were more likely to be IBD patients ($p = 0.001$), female ($p < 0.001$), aged 60 or older ($p < 0.001$). Staff in administration and nurses were more likely to be frequent users compared to physicians ($p < 0.001$). Main problems included the initial operational system disparities resulting in app crashes and continuous need for app reactivation. Both led to loss of active participants and required substantial staff resources to onboard and support participants during the study.

Lessons: The study app enabled secure, flexible, bidirectional communication with all participants. Despite technical issues, the majority actively used the app and provided valuable longitudinal data through weekly survey submissions.

Key messages:

- A study-specific app provides a flexible and secure bidirectional anonymous communication for the study team and participants.
- Adherence to app-based communication and data collection for pandemic monitoring was particularly high among patients, nurses and administrative staff.

Abstract citation ID: ckae144.1115
Predicting hospital readmission in multimorbid patients with the use of AI: A systematic review

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Background: Multimorbid patients are at higher risk of hospital readmission due to the complex nature of their conditions. Identifying those who may be at particularly high risk would allow us to intervene early and potentially delay or prevent such readmissions occurring, thus reducing healthcare costs. We conducted a systematic review investigating the use of machine learning models in predicting 30-days unplanned hospital readmission of multimorbid patients.

Methods: This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Guidelines, and was registered with PROSPERO (CRD42022373937). We searched MEDLINE, Embase, Web of Science and Cumulative Index to Nursing and Allied Health Literature (CINAHL). Included studies developed an AI model for prediction of 30-days hospital readmission for adult patients with two or more health conditions. The CHARM and PROBAST checklists for data extraction and bias assessment were used. The quality of included studies was assessed with the CASP checklist.

Results: Eighteen papers were eligible for inclusion. A total of 669 predictors were reported with an average of 37 used per model. Predictors were classified as modifiable and non-modifiable with the most common modifiable predictors being hospital length of stay, hypertension, anaemia and obesity. Average sensitivity and specificity of the models was reported to be 72% in 13 studies and 79.2 in 11 studies, respectively. Area under the curve (AUC) was reported in 13 studies, five of which were considered to have good discrimination power (AUC>0.8).

Conclusions: Machine learning models are capable of accurately predicting 30-days hospital readmission of multimorbid patients. Identifying modifiable predictors with highest weight allows for better planning and resource allocation to potentially reduce the risk of 30-days readmissions. An important area for future work would be the implementation of these high performance models in practice.

Key messages:

- Hospital readmissions are preventable and identifying those at higher risk allows us to intervene early.
- Machine learning models are capable of predicting 30-days readmission of multimorbid patients.

Abstract citation ID: ckae144.1116
A Multi-Modal Approach for A Healthier Weight and More Active Lifestyle

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Background: Obesity and overweight has been increasing globally and in the UK over the last few years, bringing along a wide array of challenges in health and wellbeing. Not only do they take a heavy toll on those affected, but obesity and overweight-related ill-health is costing the UK National Health Service £6.1 with projected costs to run up to £9.7 billion in 2050. This project aimed to apply artificial intelligence to identify the predictive indicators for obesity and co-create an intervention with public health practitioners and stakeholders.

Methods: Using health and wellbeing public health population data from the 2015, 2018 and 2022 from a city in the East Midlands, we applied artificial intelligence that uses machine learning techniques to discover insights, find hidden patterns and discover relationships in the data about engaging in physical activity and a healthy diet. The data on dietary choices and physical activity preferences were further analysed using advanced machine learning techniques.

Results: The outcomes from our machine learning process revealed patterns of physical activity engagement and diet from specific locations, along with a range of demographic variables that influence individuals' patterns of physical ability and dietary practices. These findings, which will be presented in detail, have been integrated into a comprehensive city map. This map not only showcases opportunities for engaging in a healthy lifestyle but also aids in prioritising interventions in areas of greatest need.

Conclusions: The AI technology we employed allowed us to parameterise and generalise our findings with the possibility of scaling up the machine learning approach to other similar datasets. The findings facilitated the development of bespoke training for public health officers working with underserved communities, further demonstrating the impact of applying AI to inform the design of public health interventions.

Key messages:

- Applying Artificial Intelligence to public health data has the potential to inform the development of effective interventions and increase precision.
- Using AI in public health data can generate new insights into population health and well-being and inform public health policy.

Abstract citation ID: ckae144.1117
Dual-tiered insights: cross-examining entities in free text electronic health records

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Background: Poor determination and processing of actions at the primary care level are found to be associated with unstructured and cluttered electronic health records (EHRs). Physicians recommend that EHRs must highlight entities, such as action items, findings, follow-ups, and reasons for medication changes. There's consensus around the success of large language models (LLMs) in detecting clinical and non-clinical entities in EHRs. However, end-to-end systems make limited efforts to go beyond entity and relationship detection to support clinical decision-making.

Methods: We propose a two-tier system that generates case-based comparative reports for entities highlighted by physicians in EHRs. First, we fine-tuned a custom Bidirectional Encoder Representations from Transformers (BERT) model that detects the required entities within the EHRs. Second, a clustering-based service generates a report comparing the detected entities of a specific EHR with other EHRs sharing the same conditions determined by the healthcare professional.

Results: The system leverages the MIMIC IV deidentified free-text clinical notes dataset. The first-tier successfully classified entities with a macro-score average range of [0.87 - 0.94]. For the second tier, preliminary simulations on a set of test samples were made to cluster the entities. The simulations leverage a custom statistical tests engine offering a suite of entity-type specific tests. The results of these tests are used to generate the case-based detected entities comparative report.

Conclusions: Highlighting clinical and non-clinical entities bridges the communication gap between primary and secondary care. Clustering these entities extends the capability of LLMs in clinical support decision systems by providing healthcare professionals with the ability to run comparative analyses between EHRs. The comparative analysis reports provide a factual comparison between a selected number of detected entities and their thresholds.

Key messages:

- Clustering clinical and non-clinical entities extends the capacity of named entity recognition in clinical decision-making systems.
- Ability to generate a comparative analysis report based on figures extracted from recognised entities in free-text electronic health records.

Abstract citation ID: ckae144.1118
Evolution of online health-related information seeking in France from 2010 to 2023

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Background: Given the rapid ongoing progression of the internet and increase in health information available online since 2010, it is important to understand how these changes impact online health information-seeking behaviour of the population and the way of managing one's health. This study aims to describe the evolution of the use of internet to seek health-related information as well as the characteristics of online health information seekers.

Methods: We used data from the French nationally representative surveys Health Barometers. It is a cross-sectional repeated survey of random representative samples of the French population conducted by the French national public health agency since 1992 using computer-assisted telephone interviewing. It serves to measure the evolution of key indicators regarding health-related behaviors, attitudes, and opinions in the general population and includes individuals aged 18-75 years old selected through randomly generated phone numbers. In the 2010, 2014, 2017 and 2023 editions, the same question was asked about the internet use as a source of health information. Evolutions over time were assessed using chi-square tests. Associations with sociodemographic characteristics and health status were evaluated using logistic regression models.

Results: Although internet access increased steadily during this period, from 72.8% in 2010 to 95.2% in 2023, the use of the internet as a source of health information rose between 2010 and 2014 (from 37.3% to 67.9%), decreased significantly in 2017 (60.3%) and rose again in 2023 at 65.3 %. The study describes the characteristics of the online health information-seekers trough time.

Conclusions: The past decade was marked by a breakthrough of the use of internet in the general population and the use of internet to seek health information. The analysis of the digital health information-seekers serves the public health authorities in their mission to provide accessible information on public health.

Key messages:

- This study aims to describe the evolution of Online Health-Related Information Seeking in France from 2010 to 2023 and the characteristics of digital health information-seekers.
- The analysis of the digital health information-seekers serves the public health authorities in their mission to provide accessible information on public health.

Abstract citation ID: ckae144.1119
Public views on open data health research in Switzerland: Implications for research and policy

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Background: The increasing volume of publicly available data offers health researchers opportunities to explore public sentiment through open data research on issues such as vaccination hesitancy and fake news propagation. To ensure ethical conduct and maintain public trust, assessing public perceptions of open data research in healthcare is crucial.

Methods: We conducted 10 focus groups across the German, French, and Italian-speaking regions of Switzerland. We presented participants with real-world examples of open data research in healthcare and guided discussions using a semi-structured format. The topic areas were: (1) using Twitter data to assess public opinion on gene-editing technology, (2) assessment of health policy documents, (3) using Twitter data to predict individual health status and (4) using YouTube data to assess public sentiment on health policies. We assessed our findings using a thematic analysis approach.

Results: Gathering insights from 75 citizens, four major themes emerged: (1) Expectations towards actors and open data research, such as using research findings for societal benefit, and ensuring transparency in data use through informed consent; (2) Supportive measures including communication strategies to raise awareness and inform the public about the use of publicly available data for health research; (3) Concerns about data reuse for purposes beyond the study's objectives, especially for financial gain, and about data validity and privacy, particularly for sensitive health data; and (4) Mitigative measures to minimize harm, such as through the involvement of external oversight committees.

Conclusions: Our findings indicate public support for open data research in healthcare, provided that specific expectations are met. Developing a guiding framework for legitimate open data research in healthcare is a valuable next step, with a focus on enhancing public awareness through communication campaigns and providing oversight measures to foster public trust.

Key messages:

- Open data research in healthcare relies on public data use without explicit consent, which can disconnect the research community from society.
- We found that public support for open data research in healthcare is generally present, however it is also conditional on communication and policy efforts addressing their concerns.

Abstract citation ID: ckae144.1120
Prediction of mental health risk in adolescents via a smartphone app: a feasibility pilot study

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Background: The prevalence of mental health problems in adolescents is a global public health concern. Machine learning (ML) can analyse multidimensional data collected by phone sensors (passive tracking) and symptom self-reporting (active tracking) to model and predict mental health states. However, research in adolescents is lacking. This study investigated the feasibility of using ML to predict mental health in a non-clinical population of adolescents from active and passive data collected through the Mindcraft mobile app.

Methods: We recruited 103 secondary students (aged 14-18) who first completed the Strengths and Difficulties Questionnaire (SDQ) and then used the Mindcraft app for two weeks. The app integrates sensor data (location, steps, noise, light, battery, app usage) and self-reports. We extracted 85 sensor-based features and 19 from questionnaires to develop a gradient-boosted ensemble ML model. This model identifies students with abnormal SDQ scores and was evaluated using leave-one-out cross-validation.

Results: All students completed the active questionnaires; 67 also provided passive sensor data. 31 had abnormal SDQ scores. Using passive data, the ML model reached a balanced accuracy of 0.64 and an AUC score of 0.57. Incorporating both data types improved accuracy to 0.67 and AUC to 0.70. Feature importance scores showed step count and questionnaire on racing thoughts and hopefulness as most significant.

Conclusions: Our findings affirm the potential of integrating passive and active data collection to monitor mental health in real-world settings. Our ML model demonstrated moderate accuracy in predicting adolescents' mental health risk measured with a behavioural screening questionnaire. This study will guide the development of a ML-driven, personalised mobile intervention for early symptom detection and mental health self-management, which might constitute an innovative and scalable tool for mental health prevention and intervention in adolescents.

Key messages:

- This study shows the feasibility of using active and passive data to predict mental health risk in adolescents.
- This study informs the development of a personalised machine learning-driven mobile intervention.

Abstract citation ID: ckae144.1121
Can a zero-shot learning Large Language Model code complex interview data?

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Background: Psychological autopsy is essential to establish theories, explore trends and identify previously unexplored psychosocial risk factors in suicide research. However, qualitative research has been scrutinized for being prone to interpretation bias, problems with accuracy, challenges to reproducibility, and is very time- and cost intensive. The current study aimed to investigate if a Large Language Model can achieve sufficient agreement with a researcher in the deductive coding of interview data obtained in a psychological autopsy study of suicide, to be integrated with qualitative research procedures.

Methods: Data from 38 interviews was deductively coded by a researcher and a LLAMA 3 based language model. The model performance was evaluated in four increasingly difficult coding tasks, including binary classification and data summarization. Intercoder agreement scores were calculated using Cohen's Kappa.

Results: The preliminary results showed that the LLM achieved substantial agreement with the human coders for the binary classification task (.78). The variability in performance was influenced by code definitions. The results of the quality of LLM interpretation and summarization will also be presented.

Conclusions: State-of-the-art LLM can be easily integrated into the qualitative analyses of psychological autopsy interviews and may improve real time monitoring of suicides. We recommend a human-AI collaborative model, whereby deductive coding by the LLM is complemented by human inductive coding and further interpretation.

Key messages:

- Integrating an LLM with qualitative research procedures is feasible in a collaborative model.
- Integrating an LLM with qualitative research procedures allows near real-time monitoring based on qualitative data, which extends to other public health fields.

Abstract citation ID: ckae144.1122
EvalDepApps: How to evaluate depression management based on evidence and end users

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The use of apps is increasing in the field of mental health due to their ease of use and accessibility, although there is not enough evidence on their effectiveness and safety. EvalDepApps aims to develop an evaluation tool for depression management apps. A systematic review with meta-analysis (SRMA) was performed to evaluate the efficacy and safety of apps for depression, and to identify the evaluation criteria used. PRISMA methodology was followed. The MEDLINE, PsycINFO, and Embase databases were consulted. The risk of bias was assessed with the RoB2 scale. An online 2 rounds Delphi was carried out to prioritize the most relevant criteria identified. 44 people (26 professionals, 18 patients) were invited. They were asked to rate the importance of each criterion on a Likert scale (1 - 6). Those that obtained a high consensus were selected; those with a medium were submitted to the 2nd round. Empathization (6) and co-design (6) sessions were held with patients (23) and professionals (33) in Catalonia, the Canary Islands and Andalusia to identify what relevant aspects the tool should have. Twenty-nine studies were included in the SRMA (67% unclear bias), finding a significant effect of mHealth interventions in reducing depressive symptoms compared to non-active control (Hedges $g = -0.62$, 95% CI: -0.87 to -0.37, $I2 = 87\%$). In Round 1 of the Delphi (59% participation) 24 criteria obtained a high consensus, 20 a medium and 7 a low. In Round 2 (52% participation), 4 criteria reached high consensus. The empathy sessions showed that the actions most requested by patients were reduce anxiety, and information about their condition; for professionals, suicide prevention. Regarding co-design, it was proposed that the tool provide ranking of the apps, recommendation systems and a very visual format. The RSMA and Delphi guarantee that the tool will be based on scientific evidence and expert judgment, while empathization and co-design that it will fit with the needs of end users.

Key messages:

- It is relevant to evaluate the quality of health apps, especially those addressed to vulnerable populations such as people with depression.
- It is crucial that the development of evaluation tools for digital health interventions will be developed based on evidence-based but also includes end users.

Abstract citation ID: ckae144.1123
Strategies to advancing digital health equity: perspectives from underserved groups

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Digital Health Technologies (DHTs) are revolutionizing healthcare. However, there is a lack of demonstrable health benefits across all populations. To advance digital health equity, we explored the perspectives of underserved groups on strategies to support digital inclusivity. Participants belonged to two or more CLEARS (Culture (ethnicity, language, religion), Limiting conditions (visual or hearing), low Educational attainment, older Age, Residence (rural, deprived or no fixed address), low Socioeconomic status) groups. This framework encompassed sociodemographic factors associated with digital exclusion and recognizes the role of intersectionality.(1) Twenty-nine individuals participated in focus groups ($n = 4$) or interviews ($n = 11$) and shared their perspectives on the barriers to DHTs, innovative ideas to improve inclusivity, and perceived feasibility of implementing changes. An inductive reflective thematic analysis was used to analyze the transcripts, assisted by N-Vivo. Participants experienced fragmented communication with healthcare providers when using DHTs, explaining how they received a no-reply SMS message asking them to confirm an appointment via a link but were unable to access the link. Current solutions to overcoming such barriers included using non-digital routes (e.g., visiting a pharmacy) or calling non-emergency healthcare services. Many participants expressed the need for DHT support services to be implemented to provide educational support and access to devices. However, some participants raised concerns about the financial strain this might place on healthcare systems. Future research should evaluate the feasibility of implementing different DHTs support services across different settings to advance digital health equity.

(1)Wilson et al. (2023). Strategies to develop, design, implement and support digital health equity in key underserved groups: protocol for a systematic review. Alzheimer's & Dementia.

Key messages:

- Strategies to mitigating digital exclusion within healthcare should be designed with underserved groups.
- Future research should evaluate the feasibility of implementing different DHTs support services across different settings to advance digital health equity.

Abstract citation ID: ckae144.1124
Accessibility engineering in the mhealth industry - A multi-case study

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Medical apps, i.e. apps that fall under the EU Medical Device Regulation (MDR), are increasingly becoming a relevant part of healthcare in European countries. This is particularly evident in the numerous partnerships between app vendors and insurers as well as in the launches of national reimbursement programs. However, when it comes to enabling as many patients as possible to benefit from the medical advantages associated with the use of these apps, funding is only one part of the equation. It is up to the app vendors to develop barrier-free user interfaces so that people - regardless of individual characteristics such as cognitive abilities, physical limitations or language skills - can interact successfully with the app. Little is known about how these companies approach the topic of accessibility, what challenges they face and how big the impact of medical device legislation and other regulations on accessibility is. Against this background, we are undertaking a case study in several companies offering apps on the German market that are certified as medical devices and targeted at patients. Through interviews with employees with various roles (e.g. business, engineering, design) we are aiming at reconstructing the development processes of the apps with a focus on accessibility. We plan to expand the results by interviews with experts, e.g., in the area of MDR conformity assessment. 20 interviews in four companies have revealed that accessibility only plays a minor role during development. As a result, the topic is not systematically addressed, but only a few features are implemented. The app's compatibility with screen reader or voice control was not explicitly addressed in any of the companies. There was also no deliberate involvement of people with disabilities in user studies. The preliminary results also indicate that the influence of medical device legislation on the implementation of accessibility is negligible.

Key messages:

- User interface accessibility has a very low priority in the mhealth companies we have examined so far.
- The current regulations are not sufficient in enforcing the basic implementation of accessibility features requiring more guidance and detailed regulations, given our sample of companies.

Abstract citation ID: ckae144.1125
The physician-AI relationship: partnering for precision medicine via clinical decision support

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Background: Clinical decision support systems (CDSSs) can enhance physician decision-making, but successful adoption depends on positive user attitudes. Understanding Israeli physicians' attitudes toward CDSSs is crucial for overcoming implementation barriers and refining training.

Methods: Semi-structured interviews explored knowledge, experiences, perceived benefits/drawbacks, and potential barriers/facilitators to CDSS use among 25 Israeli physicians across specialties, roles, settings, and experience levels selected via stratified sampling. Individual 45-minute video interviews were conducted in January-July 2023.

Results: Familiarity and CDSS experience varied substantially across medical specialties. While risk calculators, information systems, and expert systems disseminating contemporary research insights are widespread, AI-based system adoption is relatively low outside radiology. Physicians expressed positive attitudes, recognizing CDSSs' potential to enhance clinical work, reduce errors, and alleviate burdens. However, concerns included AI systems' impact on workload, patient relationships, skill erosion, and overreliance. Key implementation barriers involved technological infrastructure, organizational processes, physician perceptions, and system features. Facilitating factors included tailored design, focused training, continuous accuracy/reliability validation, and clear autonomy/liability guidelines.

Conclusions: Addressing key concerns around transparency, trustworthiness and responsible use is crucial for AI-CDSS to fulfill its promise of enhancing quality and outcomes. Insights from Israeli clinicians provide guidance on priorities like transparency of data and algorithms as well as ensuring AI behaves ethically. Collaboration among technology designers, healthcare professionals and stakeholders can help develop systems that physicians trust to improve care while safeguarding patients. Ongoing evaluation is also needed to optimize AI-CDSS over time.

Key messages:

- Understanding physician attitudes is key to overcoming barriers to clinical decision support system adoption and optimizing training protocols.
- Addressing transparency, trustworthiness, and ethical considerations around AI clinical decision support systems is crucial for enhancing quality care.

6. Poster Displays

DA. Poster display: Public health innovation and transformation

Abstract citation ID: ckae144.1126

Guidelines to practice in hospitals at home: penicillin infusion pumps in erysipelas treatment

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Background: Hospitals at home are increasingly offering outpatient parenteral antimicrobial therapy (OPAT) in an attempt to reduce costly inpatient care, but these settings favor broad-spectrum antibiotics that require less frequent dosing than penicillin. Benzyl penicillin could be delivered via continuous infusion pumps (eCIP), but studies on their safety and efficacy in OPAT are scarce, and it remains unclear how much the availability of eCIPs increases penicillin use in real-life settings.

Methods: We examined 462 electronic healthcare records of erysipelas patients treated between January 2018 and January 2022 in a large Finnish OPAT clinic. Average marginal effects from logistic models were estimated to assess how the introduction of eCIPs in December 2020 affected penicillin use, and to compare clinical outcomes between patients with and without eCIPs.

Results: Introduction of eCIPs increased the predicted probability of penicillin treatment by 36.0 percentage points (95% confidence interval 25.5-46.5). During eCIP implementation, patients who received an eCIP had 73.1 (58.0-88.2) percentage points higher probability than patients without an eCIP to receive penicillin treatment. They also had about 20 percentage points higher probability to be cured at the time of discharge and three months after it. Patient and nurse satisfaction regarding eCIPs was very high.

Conclusions: Benzyl penicillin eCIP treatment is effective and safe, and substantially increases the use of penicillin instead of broad-spectrum antibiotics. To reduce the risk of antimicrobial resistance, eCIPs could increasingly be promoted for use in OPAT clinics, and there should be adequate education and support in their implementation.

Key messages:

- Continuous infusion of benzyl penicillin via elastomeric infusors substantially decreases broad-spectrum antibiotic use among erysipelas patients treated at home.
- When erysipelas patients can be treated with outpatient parenteral antibiotic therapy, the use of elastomeric benzyl penicillin infusors is safe and effective and should thus be increasingly promoted.

Abstract citation ID: ckae144.1127

A global adoption of cryptocurrency and blockchain technology into the healthcare system

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Background/Objectives: Blockchain technology is revolutionizing various industries by enhancing security, transparency, and efficiency. In healthcare, its small-scale application demonstrates the potential to transform healthcare. This study explores how cryptocurrency and blockchain technology enhance healthcare financial stability, secure medical information exchange, increase payment recovery and interoperability.

Methods: Guided by the Diffusion of Innovations (DOI) Theory, this study reviews 34 articles on blockchain and cryptocurrency adoption in healthcare. We performed a thematic analysis focusing on empirical data, theoretical analyses, and existing implementations. Data were categorized by DOI elements: relative advantage, compatibility, complexity, trialability, observability, and social system. The findings were synthesized into a detailed framework for adopting these technologies in healthcare.

Results: Our analysis shows that cryptocurrency offers a secure, decentralized payment platform, eliminating the need for third-party intermediaries. Blockchain adoption enhances payment and patient record protection. Cryptographic methods ensure data integrity, transparency, and security, preventing modifications once recorded. Altering data requires consensus from the network majority, protecting healthcare providers from ransomware attacks.

Conclusions: Evidence suggests that cryptocurrency and blockchain will disrupt healthcare payments, data management, and accommodate interoperability within the next decade. These technologies promise improved security, improved public health research, and increased trust in the healthcare system.

Key messages:

- Our research will be assessing the challenges of integrating digital coins and blockchain technology into the healthcare system.
- Examine the potential benefits and risks of implementing blockchain technology in healthcare settings.

Abstract citation ID: ckae144.1128
Innovative risk score to diagnose depression using data from the UAE Healthy Future Study

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Introduction: Depression has been recognized as a major mental health disorder. Diagnosing depression remains a challenge due to its complex multifactorial nature. The UAE Healthy Future Study is a long-term cohort study that focuses on understanding the factors that contribute to chronic disease among Emiratis. It involves answering a comprehensive questionnaire, undergoing physical measurements such as Body Mass Index (BMI), and biological samples for analysis. We analyzed the eight-item depression screening instrument Patient Health Questionnaire (PHQ-8) for this project.

Methods: Out of 487 participants included in the PHQ-8, 205 participants (42.1%) were included in the statistical analysis after omitting missing values. A multivariate Least Absolute Selection Shrinkage Operator (LASSO) logistic regression model was performed using gender, age, BMI, waist circumference, hip circumference, body fat percentage, high-density lipoprotein (mg/dL), lowdensity lipoprotein (mg/dL), total cholesterol (mg/dL), diastolic blood pressure, systolic blood pressure, hemoglobin A1C, as predictors. The primary outcome was the binarized total PHQ-8 using a cutoff value of ten Tenfold cross-validation was applied.

Results: A cutoff value that yields an approximate sensitivity of 90% was selected to maximize the ability of the novel risk score to correctly identify subjects with depression symptoms. Sensitivity and specificity were estimated with a corresponding 95% confidence interval (95% CI). A novel depression risk score was computed as the linear predictor of the selected five variables in the LASSO regression analysis, as following: Risk score = -3.284 + 0.471*gender - 0.053*age + 0.049*BMI + 0.022*HDLmgdL - 0.072*HBA1c

Conclusions: We have shown that a novel depression risk score provides useful information for screening of depression. Further validation studies are needed to confirm the application of the risk score in daily practice.

Key messages:

- A novel depression risk score provides useful information for screening of depression.
- If the risk score can be verified in a different population, then it can improve the screening methods for depression.

Abstract citation ID: ckae144.1129
Digital Pathology: A Cost-Effective Solution For Healthcare Systems

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Background: Digital pathology represents a transformative technology in healthcare, utilizing digital analysis and interpretation of pathology microscopy images. While traditional light microscopy remains the standard, digital pathology offers potential advantages: improved diagnostic accuracy, increased efficiency, and enhanced collaboration. However, cost-effectiveness remains a crucial consideration for widespread adoption. This systematic review aims to evaluate the cost-effectiveness of digital pathology in various healthcare settings.

Methods: A literature search was conducted in PubMed, Scopus and Cochrane Library, using keywords "digital pathology", "telepathology" "cost", and "effectiveness". The search was limited to English-language studies discussing digital pathology and its cost effectiveness. Prior to inclusion, studies were evaluated for relevance and applicability. Included studies were analyzed for methodology, sample size, data collection methods, and key findings.

Results: Of 125 articles identified, 16 studies met inclusion criteria. Key findings included streamlined workflows allowing for smoother collaboration across institutions, enabling simultaneous evaluation of multiple slides, and utilizing image processing software to automate time-consuming tasks. Additionally, digital pathology reduces the need for physical slide transportation, reducing costs and enabling access to specialist expertise in remote or underserved areas. This combination of efficiency gains and potential cost savings suggests digital pathology's potential for long-term cost-effectiveness in healthcare systems.

Conclusions: Digital pathology has the potential to increase cost-effectiveness and improve quality and efficiency of pathology services. Further research is necessary to determine optimal implementation strategies, but the evidence suggests digital pathology warrants continued investment and adoption by healthcare systems to improve public health outcomes.

Key messages:

- Digital pathology demonstrates potential for cost-effectiveness.
- Despite the need to refine implementation, the efficiency and potential cost savings of digital pathology warrant further exploration.

Abstract citation ID: ckae144.1130
Using the innovative tool to prepare a quality national cancer control programme

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Issue: National cancer control programmes (NCCPs) are key documents in European Member States (MSs) used for the management of cancer policy. While some countries still have not prepared their NCCPs, there are several others, whose NCCP is not of high quality or not implemented.

Description of the problem: There is frequently a lack of knowledge in countries on how to prepare a quality NCCP or how to improve the existing one. Our objectives were: 1. To provide help in the preparation of an NCCPs and in cancer control to EU MSs 2. To enhance the availability of all the documents needed and provide best practices from other MSs. The development of an innovative tool was therefore the main objective of iPAAC Joint Action (JA). Streamlining of all NCCP-related documents prepared by the three JAs in cancer policy (EPAAC, CanCon, iPAAC) was central to the deliverables.

Results: The solution lied in the preparation of the interactive innovative tool called Roadmap on the Implementation and Sustainability of Cancer Control Actions (Roadmap). It was developed in a joint effort and collaboration between EU MSs and the European Commission. It is available online and can be used by all countries, including countries that are not part of EU, and who aim at preparing a high quality NCCP. The extensive content of the tool covers primary prevention, health promotion, screening, diagnosis, treatment, and health care, as well as a number of sub-areas with important contents, and over a hundred one-pagers, which include national and regional experiences. Among the latter, the European Guide for Quality NCCPs with instructions how to prepare a quality NCCP is presented as one pager.

Lessons: As the result of over 10 years of joint work in cancer control at EU level MSs have now both, the opportunity to learn from each other and the opportunity to access all key information they need for controlling cancer, including the instructions on the preparation of the key document, their NCCP.

Key messages:

- Using the Roadmap countries have access to instructions and guidance for the preparation of a quality NCCP.
- The Roadmap enables the access to all key documents for the management of cancer control in one place to all countries.

Abstract citation ID: ckae144.1131
Evaluation of Previous ECG Algorithms for Identifying the Culprit Artery in Inferior STEMI

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Background: ST elevation myocardial infarction (STEMI) is the leading cause of cardiovascular related mortality. In the context of Inferior STEMI, the culprit artery is whether the right coronary artery (RCA) or left circumflex coronary artery (LCx). An accurate prediction of culprit artery prior to primary percutaneous coronary intervention (PCI) could improve the door-to-balloon time and could prevent contrast-induced-nephropathy. However algorithms established for that purpose were not evaluated within the Tunisian population. We aimed then to assess their performance in our population

Methods: We conducted a single-center hostorical cohort study from January 2014 to December 2022 on patients admitted at Sahloul university hospital Sousse Tunisia for PCI following an inferior STEMI. We analyzed the ST segment deviations at the J-point and 80 ms after the J-point then evaluated the performance of previous algorithms.

Results: We collected data from 156 patients, of which 130 (83.3%) hada RCA occlusion, and 26 (16.7%) a LCx occlusion. We evaluated 19 published algorithms. The criterion of zimetbaum et al (ST elevation in III> II and I and/or VL <-1 mm) had the highest AUC 0.77[0.66 - 0.88] YI = 52 accuracy = 0.81. The criterion of Herz et al (ST III > II) had AUC ROC of 0.71 [0.58 - 0.83] YI = 0.41 accuracy = 0.78, the algorithm of Tierala et al: AUC = 0.70[0.58 - 0.83] YI = 0.40 accuracy = 0.78. The algorithm og Fiol et al: AUC = 0.79 [0.58-0.83] YI = 0.59 accuracy = 0.73.

Conclusions: The Zimetbaum criterion had the highest performance in predicting the culprit artery and Fiol's algorithm was the most specific to the LCx occlusion in our population. Further study on the impact of these algorithms on patients outcome is necessary.

Key messages:

- The prediction of the culprit artery in inferior STEMI is challenging.
- The criterion of Zimetbaum et al had a good performance for that regard.

Abstract citation ID: ckae144.1132
Introducing innovative policy instrument to reduce antibiotics use. Relevant evidence from Bulgaria

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Background of the public health challenge: Excessive individual consumption of antibiotics (ABs) increases global antimicrobial resistance (AMR). Therefore, shaping consumers' behaviors towards responsible ABs use is an essential strategy in the battle with the silent pandemic of AMR. The EU One Health (OH) Action Plan against AMR targets making Europe a best-practice region. Overall consumption of ABs in the EU decreased significantly, especially during the COVID-19 pandemic. Bulgaria is the only EU country that has reported an annual increase in ABs use during this period (ECDC data). A growing part of Bulgarians, believe that 'ABs kill viruses' and is unaware that 'unnecessary use of ABs makes them ineffective' (Eurobarometer 2022). This limited understanding of adequate ABs use resulted in counterproductive behaviors that demand change. Introducing innovative policy instrument as a tool for behavioral change: Undeniably, drug prescription monitoring has the potential to change consumers' behaviors. In October 2023 mandatory electronic prescribing (e-Rx) for ABs was introduced in Bulgaria at a primary healthcare level. Consequently, there was an observed decline exceeding 30% in ABs sales (IQVIA Bulgaria data), evidencing a reduction in ABs consumption. However, there were negative reactions by the stakeholders, due to time-consuming procedures, nonoptimal IT infrastructure, etc., and that led to e-Rx-moratorium. Finally, in April 2024, the e-Rx is sustainably introduced.

Conclusions: Legislative measures, like e-Rx, can hinder the chaotic use of ABs. Moreover, Bulgarians need to reflect on their behaviors and values of solidarity which OH offers. Herewith, a multidisciplinary team of academic educators unite their OH efforts in raising awareness related to AMR and the rational use of ABs. Years of national endeavors toward healthcare digitalisation led to the introduction of e-Rx for ABs in Bulgaria. Research will prove its relevance for the rest of Europe.

Key messages:

- To the European community: The introduction of the innovative policy tool (e-Rx for antibiotics) in Bulgaria is a significant national effort in making Europe a best-practice region regarding AMR.
- To the Bulgarian society: Antibiotics are not bonbons! Responsible ABs use of every one of us can contribute to the EU efforts to manage AMR. In the context of AMR, every person is a stakeholder.

Abstract citation ID: ckae144.1133
Assessment of digital literacy and user experience in patients with cochlear implants

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Introduction: The cochlear implant (CI) is the treatment of choice for people affected by deafness or profound hearing loss. Patients with cochlear implants (PwCIs) can enhance their hearing outcomes using digital hearing training programs (dHTPs). Current technological trends leans towards personalized, AI-driven dHTPs, aiming to optimize user experience (UX) and adherence. This study aims to investigate the digital literacy skills and UX of PwCI before and after testing a prototype of a dHTP with an AI-driven design (TraiCI).

Methods: Two research-specific questionnaires developed by the Hearing Center Düsseldorf (QDL and QUX) were used to assess digital literacy skills and user experience in TraiCI. Additionally, the User Experience Questionnaire (UEQ) was employed to evaluate general user experience. The UEQ assesses software quality across dimensions such as transparency and stimulation using paired opposites.

Results: 22 outpatient PwCIs the Hearing Center Düsseldorf with unilateral or bilateral CI (mean age 54 years; SD = 15) were included. In QDL, PmCI demonstrated high levels of digital literacy skills. The majority of PmCI (80.6%) reported prior experience with dHTP. Usage of these programs occurred daily to multiple times per week within the first six months after CI treatment, with session durations predominantly ranging from 10 to 30 minutes. QUX data indicated a smooth initiation process (70.8%) and seamless login experience (95.5%). The UEQ addressed various aspects of user experience, with ‘transparency’ receiving the highest scores (MW = 1.9; SD = 0.6), while ‘stimulation’ received the least positive ratings (MW = 0.0; SD = 2.1).

Conclusions: The results show a high degree of digital literacy among PwCIs. They encountered minimal challenges in operating hardware and software components. Further refinement is necessary to align with PwCI’s expectations and maximize benefits. Early and iterative involvement of PwCIs in future projects could optimize outcomes.

Key messages:

- The study highlights the proficient digital literacy skills of cochlear implant patients (PwCIs).
- Further refinement of dHTPs is needed to better align with PwCIs’ expectations and maximize benefits, emphasizing the importance of iterative involvement for optimized outcomes.

Abstract citation ID: ckae144.1134
Patients’ trust in health information sources as an antecedent of novel healthcare technology usage

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Background: As professional health information sources, healthcare maintenance organizations (HMOs) need to convince patients of the necessity, efficiency, and reliability of technology-based services to increase and optimize their usage. It raises the question of whether patients’ trust in health information sources shapes the use of technology-based services and, in return, increases their willingness to use novel healthcare services in the future.

Methods: Data were collected through an online close-ended survey among 668 adult Israeli citizens insured with Israeli health insurance (85% of them Jewish, 52.5% female, and in their early 40s, with half holding an academic degree). The survey explored actual use and willingness to use innovative healthcare technologies and the trust respondents attributed to various sources of health information. Data were analyzed by SPSS 28.

Results: Participants generally use healthcare technology primarily to schedule appointments, search for medical information, and make health-related requests. To quite an extent, they are willing to be treated with innovative healthcare technologies (e.g., for radiological purposes and personally tailored medication). Preliminary results suggest that trust in the measured formal health information sources (i.e., formal health providers, HMO, HMO online services) was positively associated with technology-based healthcare services usage (r=.14 - .20, p<.001). A positive association also emerged between the current use of healthcare technology and the willingness to use innovative medical technologies in the future (r=.23, p<.001).

Conclusions: HMOs, as key players, have the power to maximize the usage of advanced health services by establishing trusting relationships with their patients. This will increase the usage of healthcare technology-based services and generate positive patient experiences, which will result in the willingness to experience novel types of health services in the future.

Key messages:

- Encouraging patients to use technology-based health services will maximize the potential inherent in the use of innovative health services and treatments in the future.
- Nurturing trusting relationships with patients at any level in the health system will increase their compliance with health providers’ recommendations to use advanced health services.

Abstract citation ID: ckae144.1135
Debuting an innovative model for integrated child health care in the Southeast region, Bulgaria

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Background: Demographic indicators are fundamental drivers for health policy action. The Southeast Region (SER) is the largest statistical region (NUTS 2) in Bulgaria (BG), distinguished by the highest Infant mortality rates (IMR) and teenage crude fertility rates across the European Union (EU). For instance, the 2022 statistics reveal an IMR of 8.2 per 1000 live births in SER, notably higher than Bulgaria’s average of 4.8 and the EU’s average of 3.3. This disparity highlights the critical need for region-specific health initiatives aimed at curtailing IMR and harmonizing health outcomes throughout the EU territories. This report outlines such an initiative under the project code BG16FFPR003-2.001-012, recently funded by the EU. The novel SER initiative: This is the first presentation of the concept of integrated territory investments (CITI) and the innovative model for integrated child health care in SER, BG. The project impacts child health care across the four districts of SER - Burgas, Sliven, Yambol, Stara Zagora. The municipalities have collaboratively submitted 24 project proposals with educational bodies, NGOs, public institutions, and the Ministry of Health. The theoretical frame of the project’s model is underpinned by three foundational pillars: 1) Prevention in primary healthcare; 2) Child health care in hospitals; 3) Development of human resources, providers of health care. The forthcoming infrastructural, organisational, and capacity-building interventions will remain adaptable yet aligned with the overarching CITI framework.

Conclusions: A current phase of public discourse on the CITI concept and the innovative integrated model in SER is underway. Stakeholders are actively encouraged to provide input either through discussions or by participating in designated online surveys. Community engagement is instrumental in evaluating and prioritizing these initiatives, which aim to fundamentally transform the SER by leveraging its unique territorial potential.

Key messages:

- Demographic indicators drive health policy. Project BG16FFPR003-2.001-012 targets EU disparities, lowering IMR and balancing fertility rates.
- This is the first presentation of the “Innovative model for integrated child health care in SER”. The EPH Conference provides an ideal platform for sharing and discussion.

Abstract citation ID: ckae144.1136

Assessing Academic Perspectives on Infodemic Management and Health Security: A Needs-Based Approach

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Background: The information environment significantly impacts public health decisions, behaviors, and health security. Misinformation and disinformation can compromise health interventions and undermine public trust, and this phenomenon, known as the infodemic, is increasingly challenging to address and requires innovation and transformation of public health and education of the health workforce. This study aimed to assess the relevance of infodemic management (IM) to different academic fields and training needs to create a competent workforce.

Methods: As part of the US Federal Assistance Award within the University Partnership Program between Emory University and the University of Belgrade, a mixed-methods study was conducted to evaluate the curricula of all 31 faculties at the University of Belgrade. An online survey was distributed to faculty deans to assess the current educational framework and opinions on IM in various academic fields. This approach provided a multidimensional view of how IM is perceived and integrated across diverse disciplines.

Results: The survey received 33 responses from different departments at the University of Belgrade. Over 75% of participants identified misinformation as prevalent in their respective fields. More than half of the respondents believe that students are not sufficiently familiar with the concept of the infodemic and its potential consequences, only 9% believe these topics are well covered in the current curriculum, and over 90% agree that additional content on IM is required to update study programs, indicating a gap in our current educational approach.

Conclusions: Academic circles have acknowledged the issue of misinformation and its negative impact on public health. Current gaps in academic curricula indicate the critical necessity of integrating IM into educational programs. This innovative approach will provide future specialists with the necessary skills to navigate the complexities of the modern information ecosystem.

Key messages:

- Over 75% of surveyed professors identify misinformation and disinformation as prevalent in their professional fields, indicating a widespread impact.
- Over half of professors feel academic programs do not sufficiently equip students to navigate the information ecosystem, with over 90% calling for additional infodemiology content.

Abstract citation ID: ckae144.1137

Perspectives on intersectoral collaboration and citizen participation in community-based prevention

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Background: Challenges in healthcare, such as rising healthcare costs, shortages of healthcare staff, and health disparities, have made many countries focus on intersectoral collaboration (IC) and citizen participation (CP) in community-based prevention (CBP) and health promotion (HP). Previous research on IC and CP has addressed the importance of exchanging perspectives to arrive at a shared vision and ambition. Our study is part of a long-term action research project conducted in two neighborhoods in the Netherlands. It aims to provide insight into stakeholders’ perspectives on IC and CP in CBP and HP to facilitate building partnerships.

Methods: Data collection takes place from March to June 2024. As part of a Q-study, we perform post-sort interviews. The Q-methodology is based on sorting statements concerning various aspects of IC and CP in CBP and HP (e.g., roles and tasks, involvement of citizens, communication, perceived barriers, etc.). We aim to include 40-50 participants from the aforementioned neighborhoods with diverse backgrounds. Participants sort 40 statements (Q-set) into a fixed-scaled framework ranging from -4 (disagree) to + 4 (agree). The interview is about individual sorting and perspectives on their own role within the collaboration.

Results: So far, the results of 10 participants with backgrounds in health care, social work, sports, local authority, volunteer work, and public health have been analyzed.Preliminary data synthesis shows six themes concerning shared purpose, collaboration partners, social collaboration competencies, personal motivation, conditions, and collaboration organization.

Conclusions: The preliminary themes overlap with findings from previous research. We will adapt existing models to reflect on our findings and enrich the literature with new themes or insights in the specific context. The interviews will help interpret the Q-sorts and develop follow-up actions in the action research projects in the participating neighborhoods.

Key messages:

- Insights in stakeholders’ perspectives are valuable for building local collaborative partnerships.
- Shared purpose, collaboration partners, social collaboration competencies, personal motivation, conditions, and collaboration organization are themes of interest to intersectoral collaboration.

Abstract citation ID: ckae144.1138
A new digital model for Italian Integrated Home Care: strengths, barriers, and future implications

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Issue/Problem: After the COVID-19 pandemic, Italy's National Health Service (NHS) is transforming by adopting telemedicine through its National Recovery and Resilience Plan, aiming to modernize healthcare delivery and ensure equity. In this plan Territorial Coordination Centers (COT) were designed to improve patient access and continuity of care. However, regulatory challenges hinder the widespread adoption of telemedicine. Our work describes the technical, structural, and operational aspects of the new Italian Integrated Home Care (IHC) digital model, addressing strengths, barriers, and future implications.

Description of the problem: The implementation of the IHC digital model faces multiple challenges. Italy's poor technical infrastructure, especially in rural areas, hampers access to critical services. Resistance to change among rural systems and the elderly, coupled with low digital literacy, inhibits telemedicine adoption. Fragmentation in the NHS leads to resource disparities, particularly disadvantaging southern regions. Italy also grapples with a severe shortage of healthcare professionals, posing a threat to the model's sustainability.

Results: The National Digital Health Agency enacts the IHC model by overseeing telemedicine services through a cloud-based protocol. Each Region provides "Basic Telemedicine Services": healthcare professionals' and patient teleconsultation, telemonitoring, teleassistance. Communication between services, infrastructures, and local health authorities is facilitated by a modular interoperability layer, ensuring data standards and quality. A national telemedicine dissemination portal will contain data on all telemedicine solutions provided.

Lessons: Clear communication is essential for telemedicine acceptance. COTs enhance coordination and management. Bridging the technology gap for disadvantaged groups, supporting frontline employees and addressing adoption factors is vital to overcome the challenges faced.

Key messages:

- The National Digital Health Agency drives telemedicine services under the IHC model. Each region offers Basic Telemedicine Services, ensuring data standards, quality and interoperability of data.
- Italy's telemedicine adoption faces poor infrastructure, resistance and workforce shortages. Focusing on equity, healthcare workers support and bridging the technology gap will be key.

Abstract citation ID: ckae144.1139
Exploring Empathy Dynamics in Virtual Patient Training

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Background: This study investigates the manifestation of empathy among nursing students and teachers during virtual patient training with VR glasses at the Medical Simulation Training Centre of Medical University - Plovdiv. The pilot training, conducted from March 22 to April 12, 2024, was part of the Erasmus+ project 'Caring violent child safely in child psychiatric and residential units (Safe4Child) 2021-1-FI01-KA220-HED-000032106.' Participants were divided into two focus groups: third-year nursing students and lecturers teaching specialized academic disciplines in nursing.

Results: A total of 34 participants partook in the study, comprising 16 instructors with basic nursing education and 16 third-year nursing students. Students exhibited considerable empathy towards the virtual child patient, expressing an inclination to provide assistance, acknowledging the necessity for personalized care, and displaying a curiosity about the patient's experiences. They conveyed sentiments such as 'I felt the need to help the child/patient', 'the child needs individual work with a nurse' and 'I want to understand the child's experiences.' In contrast, instructors demonstrated more reserved emotional responses, characterized by professionalism and a focus on offering comfort. They expressed, 'Normal feelings...but you want to hug the child and comfort him.'

Conclusions: The study unveiled a marked difference in empathy expression between students and instructors, with students displaying stronger emotional reactions. These findings underscore the need to recognize and address individual variances in empathy expression within nursing education. Tailored strategies should be devised to bolster empathy development in both students and instructors during virtual patient training. Further investigation is warranted to explore effective methodologies for optimizing empathy development and fostering compassionate patient care in nursing education.

Key messages:

- A Comparative Analysis of Nursing Students and Instructors Using VR Glasses.
- Erasmus+ project (Safe4Child) 2021-1-FI01-KA220-HED-000032106.

Abstract citation ID: ckae144.1140
Future of nicotine pouches – users' perspective

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Background: Nicotine pouches (NPs) are gaining popularity. They are a rapidly developing category with little research or regulatory oversight. Studies have shown that the descriptor 'tobacco-free' may impact risk perceptions and the appeal of nicotine pouches among young adults and thus shape their position on the market. The aim of the study was to broaden the knowledge on NP users' perspective about the future of this products.

Methods: Qualitative approach was utilized. In December 2022 there were seventeen structured In-depth Interviews (IDIs) conducted. The sample included of adults aged 18-22, both male and female. The respondents were asked how they see NPs in the context of aim group and competition with other nicotine products.

Results: We found that from NPs users' perspective, these products are aimed at those who want give up smoking, do not want to play with electronic devices (such us e-cigarettes of heated tobacco products) or just seek for discretion (such as office workers who do want to go outside for a smoke or vape). Special aim group are children who want to hide their nicotine product use. Respondents believe that they will not force traditional cigarettes out of the market but will be a popular alternative for young people. Some suggest they need popularization to help exclude products that produce smelly smoke or vape.

Conclusions: Nicotine pouches as smokeless products will probably fill the market space with product aimed at young people who seek discretion of their nicotine addiction as well as those who do not want to inhale smoke.

Key messages:

- Nicotine pouches users see value of these products.
- Nicotine pouches future seems to be bright unless regulations disrupt their market development.

Abstract citation ID: ckae144.1141
Future Finland – A nationwide Finnish multidisciplinary birth cohort initiative

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Increasing evidence suggests that early-life conditions may have substantial consequences on individual health and wellbeing throughout the lifecycle. Development of complex social and health issues may be best understood through longitudinal studies that combine the perspectives of social and health sciences. Future Finland aims to collect a nationwide lifelong data resource that through collaborative multidisciplinary research will strengthen future population welfare. Future Finland will be based on index children born in Finland (43.000/year) during a specific time period. National registers and other administrative data sources will provide data for the age cohort (children), their parents and siblings, with special effort on data from more rarely used sources (e.g., electronic health records, school records). Subsets of cohort members will be recruited in early pregnancy (consent) to undergo deeper data collection through questionnaires, biological and environmental samples and measurements, and digital monitoring data (e.g., physical activity, citizens digital footprint). The Future Finland preparatory phase started in 2023 at the Finnish Institute for Health and Welfare (THL). The Future Finland design and focus areas are currently being planned based on identified information gaps and with consultations of experts from other birth cohort studies. Data collection is planned to start in 2025 by piloting and foreseen to expand to full-scale in 2027-2028. The Future Finland data resource will be made available for the entire research community as openly as possible, at the same time maintaining the highest possible data security standards to protect privacy now and in the future. Future Finland enables novel interdisciplinary research and intervention setups, which will strengthen the knowledge base for societal decision-making and promote the future population welfare. Future Finland is funded by the Finnish Cultural Foundation.

Key messages:

- Future Finland initiative will collect a nationwide lifelong data resource enabling novel cross-disciplinary research designs to produce groundbreaking and impactful scientific results.
- A larger-scale use of data enables novel interdisciplinary research and intervention setups strengthening the knowledge base for societal decision-making and promoting the future population welfare.

Abstract citation ID: ckae144.1142
Barriers and Facilitators in Implementation of Nutritional Benefit Transfer to Tuberculosis Patients

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Background: Malnutrition & Tuberculosis (TB) form a vicious cycle. Nikshay Poshan Yojana (NPY) is a key strategy for a TB free India, that seeks to provide financial assistance for nutritional support to TB patients. The study is a qualitative study to identify operational challenges and facilitators in implementation of NPY

Methods: In Depth Interview (IDI) of 18 Senior Treatment Supervisor (STS) at Tuberculosis Unit (TU) and 19 Tuberculosis Health Visitor (TB HV) at Designated Microscopy Centre's (DMC) was done. For further insights, the STS, at District Tuberculosis Centre, Lucknow was also interviewed. Informal discussion was done with about 50 Tuberculosis patients. We explored providers perspective on impact of NPY on other duties/services, case load, hours dedicated to NPY, practice protocols, record keeping and data management, compliances, capacity building needs, quality protocols, key enablers, motivating factors, challenges, best practices and beneficiary's perspectives on quality of life, facilitators and challenges in availing services.

Results: Motivating leadership, supportive staff, good working relationship and seamless communication, teamwork, use of technology, supportive supervision & collaboration and support of NGO for private sector were the key facilitators. Barriers comprised system level barriers (Budget constraints, issues with NIKSHAY software and bank account), provider level barriers (shortage of human resource, nonfunctional tablets) and patient level barriers (stigma and bank account related challenges). The encouraging finding was majority of recipients, responding that they used the incentive to purchase ration, vitamin supplements etc.

Conclusions: NPY is having its intended benefit but there are barriers that need to be resolved for successful roll out. The study yield suggestions for removing barriers and found a set of innovations that can be replicated across other settings with high Tuberculosis burden

Key messages:

- Malnutrition and Tuberculosis form a vicious cycle. Nutritional support to TB patients improves treatment outcome and can save lives.
- Operational research on implementation of NPY offers insights for successful roll out of this key initiative across other resource limited settings in developing countries.

Abstract citation ID: ckae144.1143
Co-planning as a public health tool: the Milan Health Protection Agencies's Local Gambling Plan

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Issue/problem: Gambling represents a public health, social, and economic problem. Lombardy Region, according with national and regional law, has approved the Regional Plan for the prevention and contrast of Pathological Gambling. The Health Protection Agencies (HPA) of the Metropolitan City of Milan, as the other HPAs, implemented the Local Gambling Plan, based on a context analysis and in synergy with all the actors involved.

Description of the problem: Since 2019, the Milan HPA's Local Gambling Plan has been implemented through collaboration with non-profit entities (TSEs), which are involved via public tendering. The implementation of the new Italian 'Code of the Third Sector' changed the TSEs engagement modalities. For this reason, a complex co-planning process has been initiated in order to increase the level of active citizenship and to enhance public health, in line with horizontal subsidiarity principle.

Results: The Co-planning procedure promoted the integration among local health services, non-profit entities and municipalities with the aim of gambling prevention and contrast, ensuring the continuity of prevention programs and the involvement of local stakeholders in addressing a public health issue. During the co-planning, 9 working groups were established to define objectives, project actions, monitoring and evaluation methods, ensuring the common interest of all actors involved.

Lessons: For the health and social system, the co-planning procedure becomes an opportunity to translate what is foreseen by the regulations into local actions. It allow the active participation of local stakeholders involved into the co-construction and achievement of public health objectives and the promotion of communities' empowerment.

Key messages:

- Co-planning is both a process and a tool for local welfare.
- Co-planning involved multiple actors, among which the public institution that ensures satisfaction of health needs through governance actions.

Abstract citation ID: ckae144.1144
Health in Germany – A new panel infrastructure for Public Health Research in Germany: study design

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Background: The Robert Koch Institute (RKI) is developing a new panel infrastructure, 'Health in Germany,' to enhance public health research through continuous, rapid data collection from questionnaire surveys, measurements, and laboratory analyses. Using online and offline collection methods (CAWI and PAPI), the project aims to have 30,000 registered panelists by Spring 2024.

Methods: The sample of the recruitment study is based on address data from Germany's local registration offices, whereby a mixed-mode design is used for data collection. Individuals aged 16-69 receive an initial online-only invitation, followed by postal reminders that include a paper questionnaire. For those aged 70 and above, both online and paper options are available from the outset. Incentives include an unconditional €5 cash payment for all invitees and an additional €10 for successful registration into the panel infrastructure.

Results: The initial response rate of the recruitment study is 35%. Of the CAWI participants, approx. 90% expressed willingness to participate again, with approx. 80% completing the online registration. To date, over 42,000 panelists have been recruited. Further detailed results on response rates, non-response bias, and sample composition will be presented at the conference.

Conclusions: RKI's 'Health in Germany' is one of the largest probability panels in public health research, effectively gathering and analyzing data. The recruitment success and strong participant engagement highlight the infrastructure's efficiency and its significant contribution to epidemiological research in Germany.

Key messages:

- Successful recruitment of over 42,000 panelists demonstrates robust engagement and effective implementation.
- The push-to-web strategy (or web-push strategy) underscores the infrastructure's adaptability and efficiency.

Abstract citation ID: ckae144.1145
Evaluating a Novel Hospital-Integrated Vaccination Pathway: Enhancing Coverage among Frail Patients

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Background: The 2022-2025 Italian Plan for vaccine prevention (PNPV), recognizes vaccine-preventable diseases (VPDs) as significant contributors to mortality, morbidity, and healthcare expenditure. While the digitalization of the national vaccine registry is underway, initiatives aimed at enhancing digital integration between hospitals and territories are limited. There is still a gap in the development of automated systems for identifying patients who could benefit from vaccinations. The "Caring for frail patients through vaccination" (CareVax) Project aims to eliminate these gaps by providing new digital tools and integrated systems.

Methods: 1500 patients will be recruited at teaching hospital "A. Gemelli" over four years. With the assistance of an automated algorithm, electronic hospital and vaccination records will be utilised to assess eligibility for vaccinations against SARS-CoV-2, H. Zoster, Influenza, S.Pneumoniae and HBV. Eligible patients will be invited to schedule a vaccination appointment and will be asked to fill a questionnaire evaluating patient-reported experience measures (PREMs). The outcomes of interest include assessing the feasibility of the pathway, measuring patients' satisfaction and concerns, and evaluating its impact on vaccination coverage.

Results: It is expected that frail patients' vaccine coverage will improve, being offered an expedited booking process to get the vaccines either in the ambulatories of the Local Health Authority or in Hospital. The algorithm has already been successfully validated on a sample of anonymized patients. The results of the study will provide evidence on novel, hospital-integrating, vaccination pathways.

Conclusions: The results obtained from the intervention will help reduce VDPs and facilitate identification of the frail patients, ensuring easy access to vaccination and increasing vaccination coverage.

Key messages:

- Carevax will test their feasibility in an Italian teaching hospital, leveraging digital technologies to reduce the burden of VPDs novel approaches.
- Hospital-Territory integrated vaccination pathways represent a novel digital approach to reduce the burden of VPDs.

Abstract citation ID: ckae144.1146
Tobacco Free Advent Calendar: Evaluating innovative strategies in Public Health digital campaigns

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Introduction: Two editions, 2022 and 2023, of the Tobacco Free Advent Calendar (TFAC) built a large network of Organizations, Universities, Institutions, individual experts and medical students across Europe, coordinated by ENSPNext (European Network for Smoking and Tobacco Prevention Youth Group), to advocate for Youth and for Public Health. This study has 2 objectives: 1. Monitor the performance of TFAC 2023 vs TFAC 2022 for 31 days 2. Evaluate improvements in reach and engagement made for TFAC 2023.

Methods: For 24 days, TFAC 2023 featured thematic messages, embedded fact sheets, quizzes, videos and call-to-action buttons. New content was accessible daily starting on the first day of advent, ending on Christmas. TFAC was available in English and Armenian. AI was used to assist for various tasks and challenges during development and research. Comparative and Time Series Analysis were conducted in Excel and IBM SPSS26.

Results: TFAC 2023 was accessed 3764 times (8.8% increase), the doors were opened 1506 times (3.9% decrease), Call to action buttons were clicked 261 times (169% increase). For english version a strong variation in reach was observed, but not in engagement which remained relatively constant. In Armenian version both reach and engagement varied in 2023 vs 2022. A seasonal component was identified for both versions, particularly an increase at weekends and a decrease on weekdays. Similar to 2022, the reach and engagement were higher at the start and lower as time passed, although in 2023 the reach and engagement remained higher and more constant over time. Completion rates of interactive materials ranged between 21.4% to 100% in the English version and from 7.1% to 100% in the Armenian version. No interactive material remained unanswered.

Conclusions: Decrease of translations didn't lower the reach and engagement of TFAC. Engagement with TFAC 2023 was higher, possibly due to the implication of students organizations and collaboration with influencers.

Key messages:

- Targeted dissemination increased the reach and engagement of TFAC 2023 versus TFAC 2022.
- Members of the target group should be recruited for being members in the projects affecting them to increase engagement and impact of the campaign.

Abstract citation ID: ckae144.1147
Exploring Health Professionals' Views on Hive: A Digital collaborative space for Health Emergencies

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Background: The rapidly changing media landscape has significantly affected how information is consumed, particularly during health emergencies. Conflicting information shared or information lacking in scientific rigour can be exploited nefariously online to undermine the health response and damage trust. Digital platforms have become increasingly vital for facilitating communication, and in response, the WHO developed the Hive digital space to provide a safe environment for public health professionals to convene, share information, ask questions, and learn from each other. This study aims to explore the experiences of public health professionals in health emergencies to assess the added value of the Hive platform to coordinate and connect health expertise globally.

Methods: This study uses a cross-sectional online survey distributed to Hive users focusing on their experiences of working in health emergencies. The responses will undergo descriptive and thematic analysis, as well as inferential statistics such as one-way ANOVA and post-hoc analysis. The survey will emphasize the practical application, value, satisfaction, perceptions, and strategy for the Hive platform to be utilised for global health emergency coordination.

Expected Outcomes: Insights from this study will delineate how the Hive platform is used by public health experts at all levels in emergency management. It will also highlight the challenges, needs and demands for digital tools to connect skills, experience and knowledge in one place. These insights will demonstrate how the Hive can streamline these processes and provide a safe space for information exchange for a coordinated response to health emergencies.

Conclusions: Understanding the needs and perceptions of Hive users involved in health emergency prevention, preparedness, response, and resilience will provide critical insights into optimizing the platform's usability, connectiveness across emergency teams and sustainability of the platform.

Key messages:

- Connecting communities, fostering collaboration and co-creation for improved health emergency management.
- Hive enhances collaboration among health professionals, providing a safe environment for knowledge and information sharing.

Abstract citation ID: ckae144.1148
Collaborative development of open-source outbreak detection tools: Needs, concept and implementation

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Issue: The early detection of infectious disease outbreaks through surveillance is critical to initiate targeted public health interventions. Automated outbreak detection helps to identify trends and unusual events. Yet, there is no overview of how many EU countries use outbreak detection systems and what factors hindered their implementation.

Description of the problem: One aim of the Joint Action UNITED4Surveillance (U4S) is to identify EU countries' requirements for outbreak detection, and based on these, develop and deploy a tool for the timely and accurate detection of outbreaks. Through surveys, interviews and an in-person workshop involving public health experts, we identified uses cases, collected functional and technical requirements for a tool. Subsequently the tool development started in August 2023 as an open-source software process on GitHub.

Results: Despite high interest, only three of the 21 countries that took part in the survey have implemented outbreak detection tools, even though national surveillance systems offer the potential for their use. Reasons for this are limited resources and low prioritization. Experts identified gastrointestinal diseases as one major potential use case and emphasised the necessity of flexible outputs. Tailored to these requirements, data scientists from five European public health institutes developed an open-source R package for signal detection. The tool generates signals based on national surveillance data and enables the user to analyses these results using a dashboard with flexible exploration and generation of a report. The tool is now being piloted locally by ten European public health authorities and its use will be evaluated.

Lessons: There is a need to use automated outbreak detection tools for routine surveillance of infectious diseases in EU countries but often lack resources. Projects like U4S can bring together expertise to build sustainable tools and supporting material that can address the identified needs.

Key messages:

- Collaborative and open-source development leads to tools that are well tailored to the needs of the community and foster a high uptake in the usage of these tools.

- The tool enhances surveillance and outbreak detection in countries without the capacities to develop and implement outbreak detection methods for their surveillance systems.

Abstract citation ID: ckae144.1149
Developing a trustworthy national health data space: public needs and policy implications

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Background: The ongoing development of a national health data space in Switzerland presents an opportunity to transform health delivery and care by enabling large-scale secondary health research. Central to this development is the Health2030 strategy, which calls for the establishment of public trust in the reliability and security of data collection, storage, and exchange.

Methods: We conducted four focus groups across the German, French and Italian-speaking regions of Switzerland to inform the development of the Swiss health data space that fosters public trust. To inform Swiss policy, we held a panel discussion with patient experts and healthcare professionals to translate the focus group findings into governance and public communication requirements. We synthesized our findings using a thematic analysis approach and proposed a guiding health policy strategy.

Results: Citizens perceive the health data space as trustworthy conditional on the delivery of its promised higher levels of transparency, security, and lower risk compared to other data sharing initiatives. To ensure its trustworthiness, citizens call for the provision of value-based consent to control data access based on the actors involved and research purposes, alongside implementing accountability measures for data misuse. Governance framework requirements entail establishing an advisory group for the health data space with sufficient representation of the Swiss population, including members of the public, patient advisory groups, and researchers. Public communication requirements call for ongoing monitoring of public opinion on health data space, alongside establishing public engagement initiatives, such as public fora, to inform ongoing progress.

Conclusions: Policy efforts should prioritize the meaningful involvement of relevant stakeholders throughout all stages of the health data space development to foster trust. Central to these efforts is balancing public expectations with their practical implementation.

Key messages:

- For the health data space to be trustworthy, citizens require transparency on their data use and the security measures taken, value-based consent for data access, and accountability measures.
- Diverse representation in governance and continuous public involvement are key policy measures to build public trust in the development of national health data spaces.

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Study tours as strategy in building multi-level public health system transformation in Ukraine (UA)

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With 14 million Ukrainians in need of psychological aid (UNDP) and a strained health system, UA urgently requires mental health and psychological support services (MHPSS). As a TA partner on the USAID funded Public Health System Recovery and Resilience project in UA, the Philadelphia (PHL) team supports capacity building for population-based MHPSS at the community level with a study tour strategy. Such approaches apply to other countries interested in remodeling public health systems. The strategy aims to advance community based MHPSS through in person tours in PHL with remote follow up to stimulate vision, exchange ideas and accelerate action among governmental, community, and academic partners. The study tours presented overviews on health policy, system development, program services delivered to children and adults, community interventions, and workforce development of professionals and paraprofessionals. All included the foundational principles of trauma-informed practice. The June 2023 tour hosted 11 decision makers and regional officials who embraced the vision for system development and endorsed further engagement. The December 2023 tour hosted 13 practitioners and coordinators of health and social services to observe community programs. Results include development of PHL NGOs and UA social service hub partnerships to implement train the trainer programs for peers/people with lived experience and for mural arts programs to promote community engagement and empowerment. The September 2024 tour involves university partners from nursing, social work and psychology and PHL counterparts to strengthen curricula to include mental health competencies, support faculty development with potential for collaborative research and student exchange, and design post-graduate continuing education courses for upskilling the incumbent workforce. Study tours and direct exchange are an effective strategy for capacity building for MHPSS in Ukraine to address population health needs.

Key messages:

- The sequenced study tour strategy affects distinct levels of change makers in UA. The results are governmental buy-in, partnerships for programmatic development, and academic advancement.
- The study tour model promotes systematic change and offers solutions to MHPSS workforce shortages through information exchange, relationship building, and capacity development.

Abstract citation ID: ckae144.1151
How stop smoking outreach works: a co-inquiry informed, complex intervention model

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Background: Across Europe, smoking prevalence is concentrating in underserved communities with high levels of deprivation. And yet, there is little research on how stop smoking services (SSS) can engage these communities. This study presents the findings of a 12-month collaboration involving an external public health research team and staff of an English SSS. Staff worked with community partners (e.g., schools) to raise awareness of the service, which included a newly introduced e-cigarette offer.

Methods: A complex intervention model was developed and refined through 6 facilitated co-inquiry sessions involving 13 SSS staff. Staff also completed 32 reflection forms on outreach events and rapid ethnography was conducted, by the research team, to evaluate staff's working assumptions. This included 8 observations of outreach events and interviews with 10 SSS staff and 8 community members, from the service target groups. Data were organised into themes.

Findings: The model presents a picture of stop smoking outreach as challenging, unpredictable and resource intensive yet often having great impact. The themes enrich this to highlight 1) the appreciation for yet unpredictability of outreach referrals for people disconnected from health services; 2) the importance of staff adopting a person-centred approach; 3) the challenges and opportunities presented by e-cigarettes; and 4) the role of strategic community partnerships in optimising staff time on outreach.

Conclusions: Stop smoking outreach can generate considerable interest in SSS, particularly when delivered in combination with an e-cigarette offer. Future research should explore the economic and social return on investment in community outreach: while time consuming, referrals generated proactively may become more important for SSS as smoking concentrates in underserved communities.

Key messages:

- Stop smoking outreach is an effective way to raise awareness and generate referrals but must be done non-judgementally and via effective community partnerships.
- Staff's careful discussion of an e-cigarette offer can change the perception of SSS without contributing to recreational normalization.

Abstract citation ID: ckae144.1152
UROLATAM Project: A multidisciplinary comprehensive care project for prostate cancer

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Introduction: Prostate Cancer (PCa) represents a health problem in the world and its management is heterogeneous in care, depending on the resources each country has, modifying its effectiveness in prevention, diagnosis, treatment and follow-up.

Methods: The UROLATAM program was implemented based on the Design Thinking quadruple helix innovation model, consisting of the immersion, design, idea and prototype phases, characterized by being multidisciplinary and comprehensive. Teachers and students from different careers at the Universidad Veracruzana participated. Linkages were made with: Local government, government health institutions, colleges of specialist doctors, private institutions and civil society. This program was broadcast on radio, television and social networks inviting the population to participate in education and prevention activities, in addition to participating in diagnosis, treatment and follow-up actions for men over 40 years of age. The duration of the program was 4 days, including educational sessions for doctors, patients, family members and caregivers, as well as determination of prostate-specific antigen, urological consultation and prostate ultrasound, as well as rehabilitation exercises, diagnostic confirmation and treatment. who needed it.

Results: During the sessions, 944 patients aged 60.7 (±15.0) years were treated, 443 (47%) had never received a urological consultation, identifying a prevalence of 11.7% of Cap. The human team present with the patient was 25 specialist doctors, 16 medical residents, 38 undergraduate students, 3 rehabilitators and 6 administrative staff. None of the participants received a salary for participating in this project.

Conclusions: The multidisciplinary UROLATAM linkage project constitutes a useful educational, training and assistance tool for the population, as well as an educational element for the students who are part of the work team.

Key messages:

- The UROLATAM project is replicable in countries that require additional support in the prostate cancer approach.
- The structure of the UROLATAM project can be replicated to address other public health problems.

Abstract citation ID: ckae144.1153
Navigating complexity: an evaluation framework for assessing co-creation in public health

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Background: Co-creation aims to democratize research and bridge the gap between research and practice. Key characteristics like empowerment and meaningful participation shape sustainable outcomes. However, existing frameworks like Arnstein's Ladder of Citizen Participation broadly overlook individual method contributions. This study aims to address this gap by creating and validating a framework for intrinsic evaluation, guiding stakeholders and researchers in genuine co-creation of public health interventions.

Methods: We systematically screened and extracted frameworks aligned with five key co-creation characteristics to identify and evaluate methods. Through iterative testing, we identified key features for distinguishing methods and integrated them into a novel framework. Co-creation experts validated and refined this framework using the closed card sort method, qualitative assessment, and group discussions.

Results: The Co-Creation Rainbow framework includes key features from 20 existing frameworks, with an Individual-to-Collective Continuum, five sections (Informing, Understanding, Stimulating, Collaborating, and Collective Decision-making), and three overarching themes (Engage, Participate, and Empower). Analysis showed successful categorization of 436 methods and revealed a significant disparity in co-creation practices between researchers and practitioners.

Conclusions: The Co-Creation Rainbow framework provides a structured approach to evaluating and reporting co-creation processes. Acknowledging co-creation's diversity, the framework aids in tailoring approaches for meaningful participation. By offering a unified language for diverse co-creation methods, the framework also facilitates transparent evaluation, enhancing the reliability and reproducibility of co-created public health interventions.

Key messages:

- Employing a universal language across diverse co-creation methods is pivotal in fostering transparent evaluation, thereby bolstering the reliability of co-created public health interventions.
- Effective collaboration of key stakeholders necessitates the use of suitable methods. By integrating diverse perspectives, public health interventions gain relevance, efficacy, and sustainability.

Abstract citation ID: ckae144.1154
Population Health Management effectiveness in the primary healthcare setting: a systematic review

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Background: Population Health Management (PHM) has shown promise as a tool in the improvement of health at scale. It works by; harnessing health-related datasets, allowing for population segmentation and risk stratification, and targeting interventions to yield positive health impact. Prior reviews on PHM, have sought to define PHM and assess feasibility. To date, there have been no systematic reviews that assess the effectiveness of PHM in achieving some or all of the quintuple aims of PHM (WHO 2023). The aim of this study is to determine the value and impact of a PHM approach in managing ambulatory care sensitive conditions (ACSCs) in the primary healthcare setting.

Methods: This systematic review is underpinned by a Population-Intervention-Comparator-Outcome (PICO) framework. The PROSPERO-registered study commenced in February 2024 for papers published since January 2000. Pubmed, Cinahl and Web of Science databases were used. Titles and abstracts of studies were reviewed using agreed eligibility criteria to select studies for inclusion and risk of bias assessment. Data abstraction and synthesis determined the effectiveness of PHM against agreed outcome measures.

Results: The search yielded 427 articles of which 19 were included. Studies addressed diabetes, hypertension, atrial fibrillation, asthma and comorbid conditions. Nearly all studies were based in the U.S.A. Almost 50% of studies showed a significant improvement in health outcomes following PHM. Study features that corresponded with positive health outcomes included; the use of population management tools, the employment of disease/population health managers and the mobilisation of medication reviews/education.

Conclusions: The challenges facing communities and health services require an alternative innovative approach to health such as a PHM approach. The results of this study will inform a larger body of work which seeks to establish a PHM approach to the delivery of services in the Mid-West region of Ireland.

Key messages:

- Population health management (PHM) could be a viable mechanism for health services to serve increasing need and multi-morbid populations.
- This is the first systematic review of PHM against the quintuple aims of PHM, specifically in the management of ambulatory care sensitive conditions in primary healthcare.

Abstract citation ID: ckae144.1155
Effects of a multidisciplinary program with physical exercise in pediatric obesity

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Background: Childhood obesity is a growing public health concern worldwide, with prevalence rates increasing in recent decades. This epidemic not only predisposes children to immediate health risks such as cardiovascular disease and musculoskeletal problems but also significantly increases their risk of obesity-related comorbidities in adulthood. Recognizing the multifactorial nature of pediatric obesity, interventions targeting lifestyle modifications are crucial to its control. Among these interventions, physical exercise emerges as a cornerstone in combating pediatric obesity.

Purpose: Our study examines the effectiveness of a twelve-week online physical exercise program on body composition and functional capacity in children and adolescents with obesity.

Methods: The sample consists of 30 participants (9 girls and 21 boys, aged 11-17 y) from the Pediatrics Department of Senhora da Oliveira Hospital in Guimarães (HSOG). Using standardized protocols, anthropometric measures (body weight and waist circumference) were measured. Functional capacity was assessed through squats, push-ups, and elbow plank tests (maximum repetitions in 60 seconds). All analyses were done using SPSS software, and the alpha level was 5%.

Results: Significant impacts of the exercise program were observed in body weight and waist circumference variables. Multivariate tests indicated a statistically significant interaction between the Moment*Groups factors (weight $p = 0.040$; waist circumference $p = 0.007$). Moreover, functional capacity was also influenced by the exercise program (squat $p = 0.034$; push-ups $p = 0.013$; and elbow plank $p = 0.025$).

Conclusions: Our results underscore the significant public health impact of integrating physical exercise into a multidisciplinary program for pediatric obesity. Innovative use of online interventions facilitated broader reach and accessibility, resulting in measurable improvements in body weight, waist circumference, and functional capacity among participants.

Key messages:

- Integrating exercise into multidisciplinary programs improves pediatric obesity outcomes.
- Online interventions broaden accessibility and effectiveness in preventing childhood obesity.

Abstract citation ID: ckae144.1156
Predicting diabetes prognosis using machine learning techniques in a Hungarian clinical database

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Background: Chronic conditions such as type 2 diabetes mellitus have great impact on patients' quality of life. Although clinical databases provide a perfect base for research aimed at improving diabetes care, analyzing such databases requires extensive preprocessing, mainly due to the large amount of unstructured data. Our study aimed to present the steps of generating a dataset from a large clinical database, and to apply machine learning-based analytical techniques regarding.

Methods: Data of the Clinical Center of University of Debrecen was used. To structure the unstructured data, regular expressions and natural language processing methods were used. The main machine learning models were as follows: Gradient Boosting Machines to predict the risk of complication development; Long Short-Term Memory Networks to forecast future health outcomes. All analysis and procedures were done using Python.

Results: The database contains approximately 1600 tables, with a total size of 1.9 terabytes, where the largest table is 21.07 gigabytes with approximately 44.64 million rows. The final dataset consisted of 40,332 patients. Most variables originate from the unstructured data, including complications and comorbidities of diabetes, as well as physical and laboratory parameters. Related to laboratory parameters, the number of measurements and the median value for every half-year were available. The diagnosis time of the complications' occurrence is also presented. Machine learning methods were more accurate compared with traditional statistical methods in predicting the prognosis ($p < 0.05$).

Discussion: Our research highlights the importance of clinical data in chronic disease management. There are challenges in pre-processing and managing datasets, but machine learning-based methods are very efficient not only in extracting useful information from unstructured data but also in predicting the prognosis and identifying potential intervention points for better care.

Key messages:

- Natural language processing can be used to obtain useful information from unstructured clinical data.
- Using machine learning techniques on clinical data could improve diabates care.

Abstract citation ID: ckae144.1157
'Freeze the measles': how to improve backward tracing with a new digital tool

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Background: A measles outbreak occurred in Tuscany, between January and April 2024. There were 37 cases (Incidence: 40,5 per million) with 32 cases (24 confirmed) in the Health District of Pisa. Even if bidirectional tracing showed a better effectiveness in pandemics, there aren't ready-to-use standardized tools for backward tracing.

Methods: Pisa Public Health Unit created a digital tool based on a spreadsheet and called "Freeze the measles" which records measles cases and the locations where they passed through (hotspots). These were uploaded on a cloud shared with all the tracers. Hotspots have an expiry date of 21 days. Hotspots and home address case were plotted on a digital map. In a new investigation, tracers could find out if the case visited some hotspots before getting sick and check the distance between home address and hotspots, reducing recall bias. Every case was interviewed about 21 days before rash onset (backward) and plus or minus 4 days of rash onset (forward). The tool matched data to identify contacts and exposure.

Results: Since the index case wasn't found, the first 5 unrelated cases were considered index cases for this outbreak. Second and third wave involved 17 cases. The tool allows to find an epidemiological link for 16 of them, while 1 case remained unrelated. A super-spreader was identified with 12 secondary cases occurred at hospital emergency room (7), at a near home minimarket (4) and in a large furniture store (1). In second and third waves, tool was able to link 94% of cases. 2 additional cases were imported. When the last hotspot became frozen without new cases occurring, the outbreak was considered ended. The outbreak lasted 33 days.

Conclusions: The "Freeze the measles" tool allows to identify transmission chains through an interactive map built on cases and their mobility.

Key messages:

- Contact tracing needs an appropriate backward investigation to be more effective.
- New digital tools as 'Freeze the measles' could improve preparedness and management of outbreaks.

Abstract citation ID: ckae144.1158
Validated translation of telehealth and health app usability questionnaires to 8 European languages

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International projects such as the Joint Action on strengthening eHealth including telemedicine and remote monitoring for health care systems for cancer prevention and care (eCAN) are implemented in countries with different languages, requiring validation of translations of standardized tools. Evaluation frameworks for telemedicine services necessarily include the patient's perspective, i.a. on the service usability. Due to the lack of validated questionnaires in multiple European languages we sought to develop translation for the languages of the eCAN pilot countries. Based on literature review, we selected mHealth App Usability Questionnaire (MAUQ) and Telehealth Usability Questionnaire (TUQ) and developed a conceptual definition for each item. Next, we performed forward and back translation from English into the target languages, expert review, cognitive interview (CI) with 5-10 cancer or chronic disease patients per language/per questionnaire. Qualitative CI results were scored by 2 independent researchers for consistence of each item with conceptual definitions for final review by native speaker expert. We chose 8 languages (ES, GR, HU, IT, LT, NL, PT, SI) for validation. CI involved 48 respondents (29 females, 60%; 18 aged>60, 38%;23 higher education, 48%) for TUQ and 48 (22 females, 46%; 16 aged>60, 33%; 23 higher education, 48%) for MAUQ. Overall 872 (87%) of TUQ and 728 (84%) of MAUQ item answers were classified as consistent. In more than one language we identified concepts difficult to understand: consistent navigation when moving between screens, distinction between easy to use/learn, social settings. The validation process allowed us to identify opportunities to improve translation and highlighted concepts generally more difficult to understand. We provided validated translation of MAUQ and TUQ in 8 European languages for use in eCAN pilots and future telemedicine evaluation studies.

Key messages:

- eCAN successfully validated translations of telemedicine usability questionnaires for 8 languages.
- Multilingual translation validation can provide insights into concepts difficult across languages.

Abstract citation ID: ckae144.1159
Syndemic vulnerability in Dutch urban cities: investigating health disparities and intersectionality

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Background: Syndemics, the clustering of health and social issues, disproportionately affect marginalized communities. While prior research indicates sex-specific variations in syndemic vulnerability, current research often overlooks other sociodemographic characteristics and their interaction. An intersectionality-informed syndemic approach could offer more insights into the mechanisms in syndemic suffering, providing a deeper understanding and identifying groups most affected by structural inequalities.

Methods: Our study focused on adult residents in Leiden and The Hague, the Netherlands, registered at different general practices. Using existing routine health data linked with Central Bureau for Statistics information, we included adults who were registered with a general practitioner in 2018 and 2019, had a minimum of two registered health conditions documented by their general practitioner, lived in Leiden or The Hague, and were at least 18 years old in 2018.

Results: A total of 43340 adults were included for analyses. Distinct health condition clusters were observed within sex and age groups. Women experiences a broader range of health issues, often characterized by mental and psychosomatic symptoms like mood/anxiety disorders and abdominal complaints. Conversely, men exhibited a higher prevalence of specific physical conditions, including hypertension, diabetes, and cardiovascular diseases.

Conclusions: The findings align with previous research, suggesting the importance of further exploration into the role of intersectionality in syndemics. Currently, we are investigating the foundations of these disparities, including interaction analyses and Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA). Using MAIHDA, we will examine the relationship between intersectionality and syndemic vulnerability, quantifying intersecting factors (sex, ethnicity, SES) and exploring their impact at individual and group levels.

Key messages:

- Understanding intersectionality in health disparities is crucial for addressing syndemic vulnerabilities.
- Tailored interventions informed by intersectionality may promote equitable health outcomes.

Abstract citation ID: ckae144.1160
Pediatric tonsilitis: modern tactics against an old foe

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Background: Pediatric tonsillitis (PT) impacts public health due to its widespread incidence and the prevalent overprescription of antibiotics driven by concerns over Group A β-hemolytic streptococcus (SGA) complications. Rapid antigen diagnostic tests (RADT) serve as vital tools for promptly identifying SGA infections in PT cases. However, despite their widespread availability, healthcare professionals often underutilize RADT, leading to inappropriate antibiotic prescriptions. Clinical audits and feedback to professionals emerge as solutions to this issue.

Methods: An audit was conducted on clinical cases of PT during 2023 to evaluate the correct usage of RADT and subsequent antibiotic prescription across various primary care practices in Lisbon, Portugal. Afterwards, a pilot practice was selected to assess the feasibility and utility of an online tool designed specifically to report RADT results and create a real-time surveillance system of incidence of SGA with feedback to prescribing clinicians. Following the revision of the reporting tool after the pilot, its implementation was extended to multiple practices across the Lisbon region.

Results: From the 1050 clinical cases analyzed, 992 had an indication to do a RADT according to the Portuguese guidelines, however only 282 (28.4%) tests were done. Overall, only 19.6% of PT cases were considered fully compliant. During the pilot, the introduction of the online tool led to a 3.259 increase in reporting (from 0.574 RADT/day to 1.872 RADT/day) for the same time period between February and March.

Conclusions: The implementation of an online reporting tool represents a significant advancement in SGA surveillance efforts, detecting cases promptly for public health interventions. This initiative underscores the importance of continuous quality improvement in diagnostics and shows digital tools' potential for better disease surveillance in clinical settings.

Key messages:

- Underutilization of RADT in PT cases contributes to inappropriate antibiotic prescriptions, compromising patient care.
- Introduction of an online reporting tool significantly enhances RADT usage, aiding prompt SGA detection for improved public health interventions.

Abstract citation ID: ckae144.1161
Needs Assessment for Primary Care for Best Practice Implementation: The CIRCE Joint Action

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Introduction: CIRCE is a Joint Action (JA) supporting the transfer of six best practices (BPs) to new primary care settings in Europe. High-quality needs assessment can set the foundation for strong planning and implementation of the CIRCE-JA best practices in these new primary care settings.

Methods: A needs assessment tool was developed based on the TO-REACH knowledge transfer framework and learnings from a scoping review of international knowledge transfer frameworks. The needs assessment provides structured tool for local sites to self-assess the alignment of the BP with local priorities, readiness of the local site to successfully implement the BP, the availability of necessary leadership, resources and partnerships, and an examination of barriers to local BP implementation and mitigation strategies.

Results: Twenty-six CIRCE-JA teams completed the needs assessments. Local teams identified the CIRCE-JA BPs were value-adding and aligned with local priorities. Cross-cutting barriers were identified which were common among the six CIRCE-JA best practices across five thematic areas: (1) provider level, (2) intervention level, (3) health system/policy level, (4) partnership and physical resources and (5) information technology. The needs assessment supported primary care sites with a structured approach to planning for transfer of BPs to their local setting that is based on established international best practices and knowledge transfer frameworks including early identification of barriers and mitigating strategies.

Conclusions: The needs assessment has supported teams with conducting a self-assessment and informing initial planning for adoption of the BP in their local primary care practice. Given the importance of the local needs assessment to high quality implementation of BP the CIRCE-JA experience with local needs assessment may provide learnings for future BP transfer initiatives.

Key messages:

- Local needs assessment supports the transfer of best practices to primary care settings, which is a critical component of service transformation during the post-COVID-19 period.
- For successful transfer of best practices in primary care, it is vital to give to examine such as provider capacity, available human resources, health policy, and information technology.

DB. Poster display: Digital health and Artificial Intelligence

Abstract citation ID: ckae144.1162

Adoption and Utilization of Telemedicine and Digital Health Services among Older Adults in Israel

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Background: As the population ages and the prevalence of long-term diseases rises, telecare is being used increasingly frequently to aid elderly people.

Aims: We aimed to explore the usage and adoption of 3 types of telehealth services among the senior population in Israel- prior, during, and after the COVID-19 pandemic rise in Israel.

Methods: We explored the usage characteristics of older adults (age 65 and above) belonging to 'Clalit', in the use of three types of telehealth services: digital services for administrative tasks, synchronous 'online visits' with the patient's personal physician during clinic business hours, and 'afterhours' consultations during evenings, nights, and weekends. The data was collected and analyzed throughout three distinct time periods in Israel: before the COVID-19 pandemic, during the onset of the COVID-19 pandemic and following the COVID-19 'peak'.

Results: Data of 618850 patients who met the inclusion criteria was extracted. Telehealth services utilized for administrative purposes were the most popular. The older population significantly increased their use of all types of telehealth services during the COVID-19 period, and in the majority of types, this usage decreased after the COVID-19 peak, but to a level that was higher than the baseline level prior to the COVID-19 period. Prior to the COVID-19 period, 23.1% of the study population used 'online visits', and 2.2% used 'afterhours' consultations, at least once. The percentage of usage for these services increased during the COVID-19 period to 59.2% and 5.0%, and then decreased during the third period to 39.5% and 2.4%, respectively ($P < 0.001$). Multiple patient variables have been found to be associated with the use of the different telehealth services, in each time-period.

Conclusions: The senior population uses telehealth services, and can increase their consumption, when they are needed. Suitable and straightforward telehealth solutions tailored for this population should be created.

Key messages:

- The senior population uses telehealth services, and can increase their consumption, when they are needed.
- Suitable and straightforward telehealth solutions tailored for this population should be created.

Abstract citation ID: ckae144.1163

Barriers and challenges to telemedicine usage among the elderly population in Israel

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Background: Despite the challenges to its adoption, telemedicine is becoming more and more popular for helping elderly people preserve their independence and continue to live in their own homes.

Aims: We investigated the challenges and barriers experienced by the elderly population when using telemedicine services in Israel.

Methods: Fourteen elderly people were recruited for the study and interviewed in person using a semi structured interview protocol, using a qualitative technique. Participants' replies were evaluated and analyzed thematically. The participants were questioned regarding their usage of telehealth services, the benefits they perceive in them, any potential difficulties to use, and suggestions they had for making these services more readily available and simpler to use for the elderly.

Results: Most participants recognized the advantages of telehealth services, particularly for the elderly population during pandemics and normal times. However, most of them also expressed various challenges that face the elderly population in using these services. Many participants were concerned that the quality of telemedicine sessions may not be good enough compared to in-person sessions, and expressed a lack of confidence in telemedicine services, and frustration from the absence of in person interaction. Many participants highlighted the technological challenges in the use of computers and applications in general and in the context of healthcare, in particular, in addition to physiological and literacy difficulties. Finally, the participants suggested several ways to increase the accessibility and usage of telemedicine solutions by elderly people.

Conclusions: A proactive approach to identifying and resolving telehealth barriers can maximize virtual interactions for the older population and alleviate care inequities. There is a need to increase awareness of the availability, benefits, and uses of each telehealth service in comparison to in-person consultations.

Key messages:

- A proactive approach to identifying and resolving telehealth barriers can maximize virtual interactions for the older population and alleviate care inequities.

- There is a need to increase awareness of the availability, benefits, and uses of each telehealth service in comparison to in-person consultations.

Abstract citation ID: ckae144.1164
Integrating telemedicine in European healthcare settings: Key enablers for healthcare professionals

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Background: Conducted as part of WP4 (Sustainability) of the eCAN Joint Action (JA), we aimed to understand the facilitating factors for the use of telemedicine services in healthcare organisations (HCOs) involved in cancer care, such as comprehensive cancer centres and hospitals. eCAN JA runs pilot studies in 18 HCOs across 10 EU Member States (MS) to test the integration of telemedicine into the daily practice of healthcare professionals.

Methods: Based on a literature review, we identified 26 facilitators to implement telemedicine services at the organisational level; these were integrated to an online survey and sent to healthcare professionals working in cancer care. Next, they were invited to a foresight workshop to complement the quantitative survey data with qualitative insights.

Results: 24 healthcare professionals across 12 EU MS, predominantly from the pilot sites of the eCAN JA, responded to the survey. They advocate for trainings on telemedicine, emphasising the importance of user-friendly and interoperable platforms, alongside sufficient technological support, time, and financial resources to effectively implement telemedicine in HCOs. Trial periods for both healthcare professionals and patients should offer first-hand experience, while harmonising telemedicine protocols ensure consistency. In addition, promoting digital literacy among physicians and providing IT education from an early age could facilitate adoption. These strategies, coupled with awareness campaigns and infrastructure investments in HCOs, can pave the way for telemedicine adoption.

Conclusions: Based on the quantitative and qualitative outcomes, it can be concluded that policies should establish telemedicine training for healthcare professionals, support interoperability and user-friendliness of these services in HCOs. They should also address hospital workload challenges, create harmonised protocols, provide incentives, and invest in digital infrastructure in HCOs for telemedicine adoption.

Key messages:

- Telemedicine implementation in HCOs requires equipping healthcare professionals with the necessary skills, ensuring system compatibility, and addressing resource constraints in HCOs for success.
- Financial and infrastructural support to HCOs is crucial for the seamless integration of telemedicine services into the daily workflows of healthcare professionals, enhancing health service delivery.

Abstract citation ID: ckae144.1165
Physical activity for the elderly: systematic review and synthesis of digital health interventions

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Background: Physical activity (PA) is key for the well-being of the elderly. Despite its proven efficacy, many older adults remain sedentary. Digital health interventions offer promising results. The study aimed to appraise scientific literature evidence regarding digital interventions to improve physical activity levels among community-dwelling adults aged 60 years or older.

Methods: A systematic review and semiquantitative analysis were performed. Digital interventions were included if using eHealth/mHealth tools, app-based technologies and text messaging. An intervention control was required. Main outcomes consisted in physical activity levels and related measures. A semiquantitative approach was chosen for evidence synthesis, using a harvest plot to visually facilitate the weighing of results with sample size and quality assessment.

Results: A total of 10 studies (13 publications) were included, from which five main intervention types were identified (2 studies per each intervention type). A semiquantitative evidence synthesis via a harvest plot was performed, to base the studies evaluation on the simultaneous consideration of sample size, study quality by type and effectiveness of intervention. Interventions adopting dynamically-adjusted exercise plans via wearables and app-based digital peer-support resulted the most successful, whereas PA digital coaching interventions resulted the least recommendable for adoption. Motivating interventions through digital platforms and digital diaries showed inconclusive results.

Conclusions: Personalized interventions using dynamically-adjusted wearable-based technology and app-based digital peer-support ones resulted as the most promising. Their ability to provide real-time, personalized feedback and foster social support is key for health promotion. It is crucial to leverage these promising tools for enhancing population health, integrating them into comprehensive, equitable, sustainable and engaging public health interventions.

Key messages:

- Interventions using personalized and dynamically-adjusted plans result as the most effective to increase physical activity amond the elderly.
- It is key to integrate effective digital health tools into comprehensive, equitable, sustainable and engaging public health interventions to enhance population health.

Abstract citation ID: ckae144.1166
Inequities to the access to and use of telemedicine among cancer patients in Europe: A scoping review

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Background: Over the last few years, telemedicine services (TMs) have increasingly been used in European health and care systems. TMs include remote assistance with teleconsultation and telemonitoring. The expected benefits to individuals include easier access to information and personalized care. However, while the effectiveness and utility of TMs among cancer patients are well-established in Europe, several evidences highlighted the fact that TMs may widen existing inequities in health. Therefore, the aim of this study is to identify barriers and facilitators contributing to inequities to TMs among cancer patients in Europe.

Methods: Medline (via Ovid) and Scopus databases were searched in March 2023 for all publications providing evidence on factors influencing the access to and use of TMs services among cancer patients aged 18 and over in Europe published between January 2018 and March 2023. The PROGRESS-plus framework was used to stratify health opportunities, patients characteristics and outcomes.

Results: A total of 1683 peer reviewed publications were identified and after screening, 26 articles were retained in our scoping review. All included studies focused on TMs used by cancer patients through mobile or web-based applications. On one hand, socioeconomic status and language were the most cited influential factors as well as having an internet connection and a (mobile) device to the access to TMs. On the other hand, factors that influence the use of TMs are the level of education with digital skills and (e-)health literacy, social support, age and presence of comorbidities.

Conclusions: Identifying and addressing factors influencing access to and use of TMs among cancer patients will enable the development and tailoring of TMs that align more effectively with the needs and expectations of cancer patients. Integration of patient-centered care in TMs is necessary to enhance equity and allow a better implementation of TMs in European health and care systems.

Key messages:

- The main factors influencing the access to and use of TMs are socioeconomic status and level of education respectively.
- TMs must be developed and used to tackle inequities already present among cancer patients instead of widening the gap.

Abstract citation ID: ckae144.1167

An Artificial Intelligence approach to monitor infectious diseases: lessons learned from COVID-19

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Background: The World Health Organization declared the start (March 11th 2020) and the end (May 5th 2023) of COVID19 pandemic, while in Italy it has been present since February 2020. Indicators such as number of new positive cases, deaths and hospitalizations are used to monitor epidemiological trends, but they suffer from biases limiting their effectiveness.

Methods: We used data from the Emergency Medical Services Activities as an alternative and studied three types of contributions: COVID19, flu and baseline during three time frames: -period 1 (July 1st-Oct 11th 2016; Feb 10th-May 20th 2017) used to model the baseline, when flu contribution should be negligible. -Period 2: (Dec 15th-Feb 14th 2017), when flu in 2017 is very evident. -Period 3: (March 11th-31st 2020), when the first COVID19 wave is dominant. To extract the pure contribution from flu and COVID19, the baseline contribution was properly subtracted.

Results: From these data we developed a machine learning approach (MLA) that offers a simple and powerful tool to monitor COVID19 or future infectious diseases. To maximize the identification power of COVID19, we used the Toolkit for multivariate analysis package. An artificial neural network, multilayer perceptron, deep neural network and boosted decision tree methods have been trained, considering the events in period 3 as signal and period 1 as background. To avoid overtraining, the samples were divided in two: one half to train the algorithm, and the other to check the performance. The results are stable over time and able to efficiently discriminate COVID19. With 50% efficiency of accepting COVID19 patients, roughly 95% of baseline patients can be rejected.

Conclusions: MLA can be used to early assign a probability of COVID19 without specific test, only relying on standard triage and emergency call details. This tool could be very useful to early detect the presence of new pandemics and tag positive patients before the official healthcare reporting system.

Key messages:

- AI model using data from Emergency Medical Services Activities can be a useful tool to early detect new pandemics and tag positive patients before the official healthcare reporting system.
- Covid19 pandemic gave us the possibility to develop new digital tools to use in the analysis of epidemiological trends.

Abstract citation ID: ckae144.1168

A Comparative Study of Sensor Quantity and Data Granularity in AAL Systems for Activity Recognition

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As populations age, the demand for non-intrusive elderly care solutions increases, highlighting the need for efficient AAL systems. Current research predominantly focuses on wearable sensors at high data frequencies. There is a critical gap in research in understanding the effectiveness of model performance using ambient sensors operating at varied granularities and with varied numbers of sensors. This study addresses this gap by investigating how sensor quantity and data frequency affect an artificial intelligence model's ability to detect various activities of daily living. The methodology employs a quantitative, experimental design to systematically assess the performance of artificial intelligence models across sensor quantity and data frequencies. This assessment will be conducted through a multi-study approach involving different populations to ensure robust and generalizable findings. Each model's efficacy will be evaluated using 5-fold cross-validation and GridSearchCV for rigorous hyperparameter tuning, employing diverse data aggregation and imputations techniques to maintain comprehensive analysis integrity. The primary goal of this research is to determine the optimal data granularity and number of sensors that maximize AI models' ability to detect daily living activities while minimizing resource demands, thereby enhancing the sustainability and scalability of AAL systems. This work aims to advance the field of ambient sensing in elderly care, offering significant implications for designing and implementing future AAL technologies and potentially improving the quality of life for the elderly population.

Key messages:

- The study explores the optimal configuration of data granularity and sensor quantity to maximize AI model efficiency in detecting activities of daily living among older adults.

- The study investigates the impact of data frequency and sensor count on AI model performance in detecting daily activities, aiming to optimize Ambient Assisted Living systems for the elderly.

Abstract citation ID: ckae144.1169
Attitudes, fears and experiences of medical scientists towards using AI tools in their work routine

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Background: Artificial intelligence (AI) has experienced an explosive growth in the healthcare sector and the scientific field. Large Language Models (LLMs) are investigated as potential tool to be used in medical treatment, by e.g. producing doctor's reports, supporting personalized medicine or educating patients. However, limitations are broadly discussed addressing patient safety and ethical concerns due to false and misleading content. Therefore, LLMs face criticism among users not only towards their integration in the patient-provider-interaction, but also in its use in medical research and health care education. In the ongoing EXPOLS (Exploring the Potential of LLMs in Statistical Consulting) study, we address the question 'What are the attitudes, fears and experiences regarding the integration of AI tools in the clinical/scientific work routine?'

Methods: We implemented an online survey that will be accessible in 07/2024. All employees at the University and Medical Center Freiburg will be asked to participate in the survey via online media. We expect a sample size of n = 600-1,200. The survey combines published measurements (e.g. TRI 2.0, result expectation measure), as well as a self-designed instrument with 15 items aiming to measure fears and attitudes towards AI. Latter was developed within a multidisciplinary team making use of ChatGPT as item generator. We will investigate its psychometric properties using exploratory factor analysis and describe distribution characteristics.

Results: At the time of the conference, the project will be completed and both psychometric insights and content-related results will be reported. The results could have important public health implications, since attitudes towards AI will steer its integration in the medical and clinical routine.

Conclusions: The EXPOLS study makes a current inventory among medical scientists in Freiburg following a modern approach in instrument development by including ChatGPT as collegial advisor.

Key messages:

- This study explores attitudes, fears and experiences towards the integration of AI tools in the work routine from medical and scientific staff at the University of Freiburg.
- The findings might be crucial in determining the integration of AI based tools in the medical and clinical work routine.

Abstract citation ID: ckae144.1170
Optimizing elderly care: a data-driven AI model for predicting polypharmacy risk using SHARE data

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Background: Polypharmacy (PP), which rises with age, is a growing public health challenge, affecting health outcomes and escalating healthcare expenditure. Leveraging the comprehensive European coverage and longitudinality of the Survey of Health, Ageing, and Retirement in Europe (SHARE) study, we aim to assess PP prevalence patterns and identify the most effective machine learning (ML) model for predicting long-term PP risk, as a foundation for a scalable predictive tool.

Methods: We used data from participants aged above 50 who were present in wave 6 and at least one of the subsequent three waves of the SHARE study, aiming to predict PP risk at 2, 4, and 6-year intervals. PP was defined as the concurrent use of five or more medications. We analyzed PP prevalence trends and selected the predictor variables from wave 6 using LASSO regression analysis. We evaluated eight ML models, namely, ANN, SVM, DT, RF, GB, XGBoost, LightGBM, and CatBoost, using a rigorous cross-validation strategy to ensure robustness and reliability.

Results: Our analysis reveals an upward trend in PP prevalence across the surveyed countries, with aggregate figures rising from 34.03% (95% CI 33.1-34.9) in wave 7 to 36.75% (95% CI 35.6-37.9) in wave 8, reaching 39.91 (95% CI 38.9-40.9) in wave 9. Additionally, using the Categorical Boosting ML model to predict PP resulted in overall accuracies of 75.08%, 73.7%, and 71.65% and recall rates of 72.83%, 70.48%, and 67.96% for the 2, 4, and 6-year intervals, respectively.

Conclusions: This study reveals a rising trend of PP across European countries and demonstrates the potential of using longitudinal data and ML to enhance PP prediction. The tool developed represents a step forward in risk stratification, which would be particularly beneficial in practical settings where family physicians or pharmacists could employ the tool to monitor elderly patients, predict and thus prevent PP, and reduce the negative health and economic impact associated with it.

Key messages:

- The integration of machine learning with longitudinal data presents a significant advance in polypharmacy risk prediction.
- The tool we developed highlights the potential translational impact of our findings.

Abstract citation ID: ckae144.1171
Cardio Policy Optimiser: an integrated public health approach to enhancing cardiovascular health

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Background: Cardiovascular diseases (CVDs) remain a leading cause of mortality in Europe, with atherosclerotic-related conditions accounting for 80% of CVD deaths - a third of them premature. Despite extensive efforts over the past five decades, the decline in these deaths over the last 20-25 years has plateaued, highlighting the need for innovative approaches. Additionally, the co-occurrence of CVDs with other chronic conditions such as diabetes, hypertension, and renal and hepatic diseases, adds complexity to their management and prevention.

Methods: In Portugal, the pilot phase implemented a novel integrated approach combining a Bayesian epidemiological model - which incorporates genetic, sociodemographic, comorbidity, and lifestyle data - with an adaptive conjoint analysis model focusing on atherosclerosis policy intervention. These models are part of a comprehensive response framework that incorporates health outcomes and associated costs resulting from better prevention and diagnosis.

Results: Currently in the development and calibration stage, the model is expected to yield initial results by early September.

Conclusions: This modeling approach offers new opportunities for public health to intervene at early stages in the natural history of CVDs. It emphasizes enhancing prevention and early diagnosis to potentially reduce the incidence of acute episodes and associated mortalities. Moreover, the model facilitates rapid evaluation of the economic benefits derived from preventive policies, thereby supporting more informed public health decision-making.

Key messages:

- The CPO model combines epidemiological and policy models to address cardiovascular morbidity and mortality.
- It boosts early diagnosis and prevention, and assesses economic benefits from policies.

Abstract citation ID: ckae144.1172
What to expect when generating data through the use of a mobile health application

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Background: Digitalization has significantly expanded the possibilities for collecting health data. Besides options such as online surveys, data can be collected through the use of digital applications (apps). Once users have given their consent, contact information from the app registration can be accessed to invite the relevant target group for further surveys. To generate a sufficient amount of data, a high level of willingness to participate and long-term involvement are required. This study aims to illustrate the willingness to share data and what can be expected from it by means of the Neo-MILK app, which supports mothers during lactation.

Methods: The willingness to share data and the data resulting from the use of the app is shown by the frequency of consent to the different data use options and the users' participation.

Results: While over 68% of the $n = 1079$ registered app users consented to the use of their app data, 47% agreed to be contacted again for scientific purposes. Data from $n = 421$ active users were available for analysis. From $n = 220$ mothers, milk pumping data was available. In 36% of cases, little (<10) or no information on pumping was provided. Of the users who agreed to be contacted again for scientific purposes, $n = 300$ were invited to participate in another survey and 23% ($n = 69$) participated.

Conclusions: In this example, the general willingness to share data and participate in further studies shows great potential for data collection. However, the data collection methods differ primarily in the motivation to participate. When collecting data through app usage, ensuring that the design of the app meets the needs of the user is essential to optimize the user experience and thereby generating complete data. If the use of contact information has been agreed to, incentives may be considered to increase the willingness to participate. Required ethics approvals and data protection regulations should also be ensured for app-based data collection.

Key messages:

- Generating data via app usage as well as the collection of data through the use of users' contact information shows great potential for health research.
- App-based data collection should be considered when planning future health research projects.

Abstract citation ID: ckae144.1173
Record linkage as a vital key player for the COVID-19 syndemic

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Chronicity, comorbidities, and social context influence COVID-19 risk and prognosis, drawing attention to a syndemic dimension. We discuss how linking routinely collected data and data collected through observational population-based cohorts can contribute to advance knowledge on the association between COVID-19 and chronic diseases and social indicators. Record linkage as a multidimensional tool may ultimately enable defining and optimizing of integrated strategies, which may create multilevel public health measures to foster solidarity on health in all policies when ethical and legal barriers under prerequisite data protection and privacy can be overcome. Legal discrepancies have been proving detrimental to research in member states, including those which already had established a margin for research for the common good without explicit consent. We hence call for further harmonization of data protection requirements for scientific research activities in the EU/EEA, focusing in particular on health-related research. A proposed framework demonstrates the role of record linkage as a trailblazing key player in research optimization due to its multidimensional possibilities calling for harmonization.

Key messages:

- Further harmonization of data protection requirements for scientific research may create multilevel public health measures.
- As a multidimensional tool, it optimizes integrated strategies and fosters solidarity on Health in All Policies (HiAP).

Abstract citation ID: ckae144.1174
Impact of AI on public health emergency communication in Europe and Central Asia: A Delphi study

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Background: Artificial Intelligence (AI) holds the potential to fundamentally transform public health communication - presenting promising opportunities alongside profound challenges and risks. This two-wave Delphi study therefore invited practitioners and scholars to assess the potential impact of AI on the risk communication, community engagement, and infodemic management

(RCCE-IM) of public health authorities in European and Central Asian countries.

Methods: In two successive online surveys, 54 experts - both RCCE-IM practitioners and scholars with expertise in (digital) health communication, risk communication, and AI - from 28 countries provided their assessment of the following analytical dimensions: (1) opportunities, challenges, and risks of AI, (2) conditions for the responsible use of AI, (3) potential future scenarios, and (4) prioritized actions. The first Delphi wave followed an open and exploratory approach, while the second wave sought to prioritize and rank key findings from the previous round. The survey instruments included open-ended and closed-ended questions that were analyzed through statistical analysis, inductive and deductive coding.

Results: Results showed that AI holds various opportunities for the RCCE-IM of public health communicators. Challenges and risks, such as algorithmic bias or concerns about inclusivity, equally affect RCCE-IM efforts. Experts identified seven principles for the responsible use of AI (e.g., fair, human-centered) and predicted optimistic (e.g., optimized workflows) and pessimistic (e.g., flood of (mis)information) scenarios for the future impact of AI. Prioritized actions range from regulation, resource allocation, and feedback to capacity building, public trust, and education.

Conclusions: To responsibly navigate the opportunities, challenges, and risks of AI for public health emergency communication, clear guiding principles, ongoing critical evaluation, and multi-sectoral collaboration are needed.

Key messages:

- AI is likely to transform public health emergency communication.
- A set of agreed-upon principles will support public health authorities in the responsible management of the opportunities, challenges, and risks of AI.

Abstract citation ID: ckae144.1175
Development of a Medical Device Lifecycle Research Database at the MFDS

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So-called big data are potentially useful in the healthcare field and are of interest to researchers, industry, and government agencies. Over the past 10 years, Europe, the United States, and Asia have been making efforts to collect and systematically manage information on the entire process from clinical trials to follow-up management of medical devices (MD). We developed MD lifecycle research database at the Ministry of Food and Drug Safety (MFDS) of the Republic of Korea, consisting of 61 tables and 2,053 variables. The MFDS possesses statistical information on all MD, pharmaceuticals, foods, and human tissues produced and distributed. The information in the database is categorized according to four MD lifecycle phases-clinical trial, approval, production, and post-approval. For the clinical trial phase, the database contains information on planning and approval of clinical trial and non-clinical trial. The approval phase includes information on models, raw materials, quality, and changes, while the production phase stores information on production, import, export, supply and use. For the last step, follow-up management phase, provide information on post-marketing safety management, risk management, and administrative disposition. All four steps are linked based on primary key, so it is possible to understand information on the overall MD lifecycle. The MD Lifecycle Research Database will help strengthen the industry's competitiveness in terms of cost-effectiveness in MD development and facilitate policy monitoring by improving its utilization in the public interest. This database contains information on all MD produced and distributed in Korea depending on the phases of the MD lifecycle, and data is easily accessible due to the lack risk of personal information exposure, so it can be widely used by individual researchers, industries, academia, and governments.

Funding This research was supported by a grant (22063MFDS498) from ministry of food and drug safety in 2024.

Key messages:

- We developed a medical device lifecycle database that enables tracking management according to the medical device lifecycle.
- This database can be used as a scientific basis to ensure the safety, effectiveness, and efficiency of medical devices.

Abstract citation ID: ckae144.1176
Public Perceptions and Engagement in mHealth Across Eight European Countries

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Background: Mobile health technologies have the potential to revolutionize healthcare delivery and patient engagement. This study explores public attitudes toward health app usage and data sharing across eight European countries, addressing a significant gap in understanding the public's perspective on mHealth adoption.

Methods: A cross-sectional survey was conducted involving 6,581 participants from Italy, the Netherlands, France, Germany, Spain, Poland, Romania, and Hungary. The survey assessed current health app usage, future interest, willingness to share health data, and concerns about data privacy and security.

Results: 21.87% of respondents currently use health apps, with 42.71% expressing interest in future use. Regarding data sharing, 52.82% are willing to share health data with healthcare providers, and 25.48% would share data with research institutions. However, 53.18% fear unauthorized use or hacking of their health data. Significant generational and geographical differences in mHealth engagement were observed, with older generations showing higher willingness to adopt health apps OR 1.22 (CI 1.03 - 1.46) for Baby Boomers, OR 1.45 (CI 0.97 - 2.16) for Silent Generation. Education level emerged as a crucial factor, with tertiary-educated individuals more likely to use health apps (OR 1.41 CI 1.24 - 1.58) and demand transparency (OR 1.61 CI 1.45 -1.78).

Conclusions: The findings underscore the need for targeted strategies to enhance digital literacy, ensure data privacy, and promote equitable access to mHealth technologies across Europe. Policymakers and healthcare stakeholders should prioritize these areas to foster greater public trust and engagement in mHealth, ultimately improving health outcomes and patient care.

Key messages:

- Public attitudes toward mHealth vary significantly across generations, countries, and education levels in Europe.
- Addressing data privacy concerns and enhancing digital literacy are crucial for widespread mHealth adoption.

Abstract citation ID: ckae144.1177
Trust in sources of information about digital health technologies: The User's Perspective

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Background: Trust is key to healthcare, including all types of health information. This applies not only to the process of healthcare delivery, but also to health-related behaviors and the utilization of healthcare services. Trust in health information sources has been shown to vary by social and health characteristics. Therefore, the research question is: Are there social and health-related differences in perceptions of trust in sources of information (government agencies or physicians) about digital health technologies?

Methods: The analysis is based on a cross-sectional online survey (STELLAR) conducted in 2022 (N = 1,200), Participants were asked whether they perceive trust (1= fully agree- 4= not at all) in information about digital health technologies provided by government agencies (institutional trust) or physicians (interpersonal trust). For the analysis, binary logistic regressions (references: traditionalists, low education level, poor self-perceived health) were used.

Results: Institutional Trust. Overall, 43.9% of the participants perceived trust in this information source. Baby Boomers (OR 2.022), Generation Y (OR 2.544), and Generation Z (OR 2.566), as well as medium (OR 2.526) and high (OR 3.823) educational level, increased the odds of perceived trust; the same was found for better self-perceived health (OR 1.569). Interpersonal Trust. In general, 94.8 % of the participants expressed trust physicians. Belonging to Generation Z decreased the chance (OR 0.097) and a better subjective health status increased the chance (OR 4.250) of perceiving trust. Education did not emerge as a significant determinant.

Conclusions: The study confirmed that interpersonal and institutional trust varies by social and health characteristics. There seems to be a need to strengthen efforts to explain the process of trust building in different population groups., e.g. to find explanations for why educational level was only relevant for institutional trust but not for interpersonal trust.

Key messages:

- Trust in sources of information about digital health technologies differ by generation, educational level, and subjective health status.
- Given the existing differences in perceptions of trust, it is worthwhile to explore the unknown mechanisms of the trust-building process among different population groups.

Abstract citation ID: ckae144.1178
Evaluating healthcare inequalities using ChatGPT4 – The case of potentially inappropriate medication

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Issue/problem: Regular and standardized monitoring of healthcare is necessary to inform decision makers and clinicians about healthcare quality. Equity is a fundamental dimension in such evaluations. We aimed to investigate if artificial intelligence (AI) large language models (LLM), such as ChatGPT4, may facilitate routine monitoring of healthcare inequalities using an established framework for healthcare quality and equity evaluation, analysis of individual heterogeneity and discriminatory accuracy (AIHDA).

Description of the problem: We have previously demonstrated that compared to traditional methods, AIHDA improves the evaluation of healthcare inequity. We asked ourselves if ChatGPT4 could facilitate the standardized application of the AIHDA approach in routine monitoring of healthcare.

Results: Using strict guidelines, we instructed a GPT model, based on ChatGPT 4, to utilize the AIHDA framework for evaluating healthcare inequalities. To demonstrate the analysis, we used the quality indicator potentially inappropriate medication among elderly and analyzed simulated data of individuals >75-year-old belonging to 36 socioeconomic strata and residing in 21 Swedish regions. The GPT performed an accurate analysis, correctly interpretated the results and formulated an informative short rapport with illustrative tables and figures.

Lessons: AI appears to facilitate routine monitoring of health care inequity using the AIHDA approach. AI also allows a constructive interaction with the user but, so far, it needs be closely supervised.

Key messages:

- ChatGPT 4 can improve the standardized evaluation of healthcare inequity.
- Although the technology is under development and must be used with caution.

Abstract citation ID: ckae144.1179
Tracing applications for the control of virus dispersal - COVID-19 experience

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Tracing apps have been promoted as an effective tool for the monitoring and control of the spread of COVID-19. Although the correlation between the use of mobile tracking apps and reducing the spread of the virus has been demonstrated, the success of these apps depends on a number of factors, such as the number of app users, the rate at which new systems get adopted, as well as concerns related to anonymity and privacy. The aim of the research was to analyse the pattern of adaptation and use of a COVID-19 tracing app in the context of Polish society. The research used a qualitative approach, data were collected through focus group and individual interviews. The sample consisted of 34 respondents, aged 23-61, with different educational levels and backgrounds. The study followed two phases. First, a model with a set of questions was proposed on the basis of the unified theory of technology acceptance and use. Secondly, using the set of questions, interviews were conducted. In order to examine the data, thematic analysis was applied. To summarise the results of the survey, the respondents have clear expectations towards the app, which are not fulfilled. They are afraid of new technologies. However, they use them frequently and willingly without thinking about the security of their personal data. They expect applications to provide reliable information, but at the same time do not want to enter necessary data that they consider sensitive. They are negative about government actions without losing trust in government applications. It can also be speculated that a lack of information and understanding of the app may have contributed to some of the objections. In conclusion, we need to better understand users and be able to accommodate often conflicting characteristics in order to design more effective tracking applications in the future.

Key messages:

- Technology offers ways to successfully prevent viruses from spreading.
- Getting the technology right, based on customer behaviour, is key to the effectiveness of tracking applications.

Abstract citation ID: ckae144.1180
The interplay of technology anxiety and digital health literacy in determining e-health readiness

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Background: The assessment of e-health readiness (eHR) is used to assess the ability of selected groups of citizens and patients, as well as society as a whole, to adopt e-health support. This study aimed to understand the main determinants of eHR in adult Internet users in Poland.

Methods: The analysis was conducted using data from a computer-based web-based interviewing (CAWI) survey carried out in June 2023 in a representative sample of 1661 Polish Internet users. The eHR score was established based on the e-Health Readiness Scale. Uni- (ULRM) and multivariable (MLRM) models were developed for eHR. Independent variables included technology anxiety (TA), digital health literacy (DHL), Internet (IU) and social media use (SMU), self-assessed health status, and sociodemographic variables.

Results: ULRMs revealed that TA, DHL, IU, SMU, an array of sociodemographic variables, and self-assessed health status (SAHS) were significant predictors of eHL. ULRMs with TA and DHL explained, respectively, 30.1% and 23.9% of the eHR variability. In MLRM developed with all predictors confirmed in ULRMs, only TA, DHL SMU, age, and income level maintained their significant effect on eHR. MLRM explained 42.8% of TA variability. Higher TA was associated with lower eHR (B, 95% confidentiality interval (95%CI): -0.30, -0.33 - -0.27). Respondents with higher DHL demonstrated higher eHR (B, 95%CI: 0.42, 0.37 - 0.48). Older persons were more likely to accept e-health solutions (B, 95%CI: 0.03, 0.003 - 0.05). More frequent SMU was associated with higher eHR (B, 95%CI: 1.87, 0.94 - 2.80). Finally, those who refused to reveal their level of income showed significantly lower eHR than those who revealed it (B, 95%CI: -0.84, -1.58 - -0.10).

Conclusions: TA and DHL are the main predictors of eHR. SMU also accounts for eHR. Unexpectedly, older age is a positive predictor of eHR. Finally, variables reflecting health status do not exert a significant effect on eHR.

Key messages:

- Technology anxiety should be treated as an important determinant of the successful implementation of e health solutions.
- The development of society's digital health literacy may be a countermeasure to the unfavorable effect of technology anxiety on e-health readiness.

Abstract citation ID: ckae144.1181
Two decades of electronic nicotine delivery systems discussions in Türkiye: AI-driven text analysis

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Background: As Turkiye ranks second in cigarette consumption in Europe, the increasing shift to Electronic Nicotine Delivery Systems (ENDS) presents emerging public health concerns. This study aims to introduce a hybrid approach by combining AI-driven large language models (LLM) with traditional thematic analysis to explore 20 years of ENDS discourse on Eksisozluk, a popular Turkish social media platform, using the Health Belief Model (HBM).

Methods: This mixed-methods study, analyzed 5,907 comments about ENDS from 2003 to 2023, sourced from a renowned online user-generated forum in Turkiye. Utilizing an LLM, comments were first categorized according to the HBM. Subsequently, the LLM's generative capabilities were employed to identify sub-themes through thematic analysis. A temporal analysis was then conducted to examine the evolving trends over the 20-year span.

Results: ENDS popularity peaked in 2017, dipped during the COVID-19 pandemic, and later rebounded. Using an LLM with 70% accuracy, validated by a manually labeled sample, we discerned two main themes: perceived benefits (40.5%) - primarily using ENDS as for harm reduction (32.8%) and smoking cessation tools (21.6%)- and perceived barriers (27.7%), with cost and accessibility (21.9%) being the most significant throughout the period. Initially, the focus was on cessation, but shifted to harm reduction post-pandemic.

Conclusions: Our study indicates that consumers in Turkiye initially used ENDS for cessation but recognized their ineffectiveness over time. During the COVID-19 pandemic, usage shifted towards harm reduction, likely influenced by the rhetoric of the Tobacco Industry. Despite a national ban, ENDS remain widely used in Turkiye.

Key messages:

- Turkiye should develop a social marketing strategy to raise awareness that ENDS is not a valid tool for harm reduction.
- Although the sale of ENDS is prohibited in Turkiye, enforcement of bans should be strengthened as part of an effective control strategy.

Abstract citation ID: ckae144.1182
Exploring the Impacts of Artificial Intelligence Interventions on Provider Practice practice

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Background: Despite the growing prevalence of AI in healthcare, there has been a lack of recent studies exploring its impact on providers' practices and patient outcomes. This study investigates healthcare providers' perceptions of AI interventions' influence on their practice efficiency and patient outcomes, as well as the correlation between providers' perceptions of AI and its effects on patient outcomes.

Methods: A self-administered questionnaire was mailed to 38 healthcare providers at a rural medical center in north Texas, with a 70% percent response rate ($n = 27$). In addition to descriptive statistics, multivariable logistic regression test was conducted to discern the relationship between their perceptions of AI and its impact on patient outcomes.

Results: The findings revealed that a majority of providers perceived AI to still be in its early stages, posing challenges for practice and having a limited impact on patient outcomes. Additionally, various factors such as age, gender, a user-centered design approach, AI experience, along with perceptions of workplace support and stress, significantly shape providers' attitudes toward AI and ultimately affecting patient outcomes.

Conclusions: Before AI technology can fulfill its promise of transforming healthcare through integration with other technologies, the healthcare sector must address numerous hurdles. It is crucial to approach the development and testing of intricate systems like AI-integrated electronic health record (EHR) systems with caution to ensure their reliability and dependability in clinical decision-making. Additionally, navigating medico-legal responsibilities and pursuing fair distribution of benefits are equally crucial.

Key messages:

- This study offers insights into the extent of AI interventions' impact on healthcare.
- This study specifically focuses on enhancing patient care, reducing costs, and improving the efficiency of the healthcare system.

Abstract citation ID: ckae144.1183
User technology for AI-supported objective measurement of Work-related Quality of Life (MI-LQ)

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Background: Understanding and enhancing job satisfaction is crucial for improving Work-Related Quality of Life (WrQoL) in today's office work environments. Our work uses multimodal data collection and analysis techniques to objectively assess WrQoL, thus mitigating respondent bias and survey fatigue. Leveraging machine learning (ML) and automated methods measuring WrQoL presents a promising approach in public health research, particularly concerning stress-related health outcomes.

Methods: Through a systematic literature search of 9,242 publications to identify WrQoL indicators, we selected over 100 publications for data extraction. A base model, including workload, commute, overtime, valence, and arousal was formulated. To amass a wide data set, Objective measurement tools (computers, smartphones, and wearables) complemented by questionnaire data. This data will inform ML algorithms to predict individual WrQoL indicators. Developed as an input/output data platform, an app-prototype will objectively assess WrQoL, facilitating a field study with office workers to refine the model. A mobile app prototype serves as a user interface and data relay for WrQoL metric analysis.

Results: Our research develops instruments for measuring WrQoL using smartphones, wearables, and specialized trackers for heart rate variability (HRV) analysis, alongside a software prototype for keyboard and mouse tracking for workload assessment of valence and arousal. Fitness trackers with photoplethysmography functionality are favored for HRV assessment.

Conclusions: The systematic search identified influences on WrQoL, translated into measurable indicators in a base model. Leveraging user tech for assessment and a ML and mobile app framework, this approach facilitates objective WrQoL determination. By presenting the relationship between digital service use and WrQoL indicators, this methodology promises new insights, informing stress and burnout prevention strategies within public health initiatives.

Key messages:

- Progressive approach: ML-driven WrQoL assessment offers promising avenues for stress prevention in workplace health research.
- Methodological Advancement: The novel framework for WrQoL assessment using digital tools contributes to effective workplace health promotion strategies, with potential for tailored interventions.

Abstract citation ID: ckae144.1184
Digital communication and techno-stress among health professionals: a cross-sectional study in Italy

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Background: Digital technologies are increasingly indispensable in physicians' clinical practice. Despite their advantages, they are also linked to information overload and constant availability, which might affect healthcare professionals' quality of life. The study aims to investigate the utilisation of digital technologies among healthcare providers and to identify possible predictors of techno-stress associated with these technologies.

Methods: A cross-sectional study was conducted through an anonymous questionnaire distributed to Medical Doctors (MDs) via social media. The main outcomes were "Impact of digital technologies" and "E-mail overload" (EO), and "Whatsapp overload" (WO) as indicators of techno-stress. Univariable and multivariable regression models analyzed the association between the outcome variables and selected independent variables.

Results: Preliminary results were conducted on 246 MDs. Most respondents declared that using digital technologies positively impacted their relationship with patients and colleagues (67.1% and 56.7%, respectively). Multivariable linear regression analyses highlighted that variables associated with a higher or lower EO and/or WO were age (WO: adjusted coefficient (adjCoeff)=0.24, $p = 0.004$), being a specialist compared to a General Practitioner (GP) (EO: adjCoeff -8.42, $p = 0.000$; WO: adjCoeff=-5.2, $p = 0.02$), the number of patients visited each day (EO: adjCoef=16.10, $p = 0.000$; WO: adjCoeff=10.43, $p = 0.001$), working in a town with a larger population (EO: adjCoeff=-8.22, $p = 0.001$).

Conclusions: In agreement with the literature, GPs were the medical category most affected by techno-stress. Doctors with a higher volume of patients and who work in smaller towns have a higher likelihood of techno-stress. These findings underscore the necessity of interventions to address the issue, specifically through increased MD education and enhanced EU-wide regulations on digital technology use in healthcare.

Key messages:

- Digital technologies positively impact physicians' relationships with patients and colleagues, but also contribute to techno-stress, especially among General Practitioners and those with more patients.
- Interventions like improved Medical Doctors' education and stronger European regulations are needed to manage techno-stress and optimize the use of digital technologies in healthcare.

Abstract citation ID: ckae144.1185
Usability of an AI-based independent pedestrian navigation device designed for blind people

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Background: 2.2 billion people live with visual impairment (VI) worldwide and face orientation and mobility challenges in various aspects of their lives. Despite technological advancements, the most used mobility solutions for VI are still the walking cane and the guide dog. The objective of this research is to assess the system usability of an AI-based independent pedestrian navigation device (.lumen glasses), designed for blind people.

Methods: During 31st of October and 2nd of November 2023, 27 visually impaired people living in Bucharest, Romania, tested the . lumen glasses for 1-3 hours during an outdoor navigation task. The glasses use AI to recognize the user's environment and haptic and audio feedback to guide them. The System Usability Scale (SUS), a 10-item instrument, was used to evaluate the level of usability the participants ascribe to the .lumen glasses. Qualitative feedback was collected as part of the post-test survey and analyzed using thematic analysis. Data were triangulated to identify usability issues.

Results: The mean age of the participants was 30.3 years old (SD = 12.07, min=21 max =56, range: 48), 55.6% (N = 15) of the participants were male, 96,3% (N = 26) were completely blind, and 81.5% were using a white cane for orientation and mobility. Our findings reveal a mean SUS score of 83.65 (SD = 15.23, range 47.5, min=52.5, max=100) indicating high usability. The thematic analysis revealed 5 themes: (1) auditive and (2) haptic feedback in navigation, (3) hardware (adjustment system & buttons), (4) tutorial & presentation of how the device works and (5) other aspects (usage in combination with other assistive technologies etc.). The participants declared that the glasses are intuitive to use and promote the feeling of safety and independence.

Conclusions: Data suggest that the .lumen glasses area promising assistive technology for the mobility of VI. Findings are currently used to steer the development and implementation of the AI-based system.

Key messages:

- According to participants' feedback, .lumen glasses are a scalable AI-based mobility solution that can make navigation and orientation easier for visually impaired individuals.
- .lumen glasses designed for the visually impaired individuals are one of the current and limited assistive technology improving the mobility and orientation.

Abstract citation ID: ckae144.1186
Digital health and some thematic shifts in bioethics in academic publications after the pandemic

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Background: Digital health (DH) presents vast opportunities, but also dynamic shift in viewpoints, which is reflected in academic works. Since DH concerns patient data, a major issue is complying with the bioethical principles, and ensuring patients' privacy and security. The aim of this research is to explore avenues, in which ethics and privacy are reflected in DH, especially in terms of research, legislation, artificial intelligence (AI) and blockchain applications in medicine and public health.

Methods: Literature search for full text publications in PubMed, Scopus and ScienceDirect focused on ethics and privacy in DH in the period 2019-2023 found 325 articles in English authored by academicians. Six thematic categories were identified: ethics (fundamental principles; ethics in using novel DH tools); privacy (in use of apps/wearables; as a challenge/barrier to DH interventions/technologies); ethics/privacy in: DH research (data gathering, use, sharing); policy and legislation (for DH applications); AI and blockchains (in medicine and public health).

Results: Articles were from 32 countries: USA-24.3%; UK-13.5%; Germany-7.7%; Canada-7.4%; Australia-6.7%; Netherlands, Italy, Switzerland-4.7% each; China, India-3.0% each and 20.3% from 22 other countries; 86.5% in medical/DH journals. Only 10.2% were published in 2019; 17.8% - 2020; 19.4% - 2021; 27.1% - 2022 and 25.5% - 2023. Privacy was discussed in 26.5%; ethics-23.7%; research-19.4%; AI-15.1%; policy and legislation-9.5% and blockchains-5.5% of the articles. The publication activity of all six categories increased after the unfold of the pandemic in 2020. In 2023 publications for ethics (13%), privacy (5.8%) and research (6.3%) decreased; for legislation (12.9%), AI (14.3%) and blockchains in healthcare (16.8%) increased.

Conclusions: The pandemic and its aftermath present a change in academic interest. Traditional ethical fundaments in DH slightly lose position in favor of top notch technologies and apt legislation.

Key messages:

- The pandemic and modern technologies enforced new digital health applications. Further research will reveal the needs of AI and blockchain applications respecting privacy and the ethical principles.
- Besides existing legislation and regulations, in order to catch up with the dynamic developments in DH, the legal base needs to become more flexible. Technologies change, privacy importance does not.

Abstract citation ID: ckae144.1187
The effects of weather and mobility on respiratory viruses before and during the COVID-19 pandemic

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Background: The flu season is caused by a combination of different pathogens, including influenza viruses, which cause the flu, and non-influenza respiratory viruses, that cause common colds or influenza-like illness. These viruses exhibit similar dynamics and, given that outbreaks occur mostly in the winter and there is almost no circulation during the summer, in temperate regions, meteorological conditions have historically been regarded as a principal modulator of their epidemiology. However, after the emergence of SARS-CoV2, in late 2019, the dynamics of these respiratory viruses were strongly perturbed worldwide: some infections displayed near-eradication, while others experienced temporal shifts or occurred "off-season". This disruption raised questions regarding the dominant role of weather while also providing an unique opportunity to investigate the roles of other determinants in their epidemiological dynamics.

Methods: Weather, mobility and epidemiological surveillance data was collected for Influenza, RSV, hCOV and hMPV, from Canada and the USA, from 2016 to 2023. Statistical analysis and modeling were employed to test the effects of weather and mobility on viral dynamics, before and during the COVID-19 pandemic.

Results: Using Beta Regressions, we found that whereas in the pre-COVID-19 pandemic period, weather had a strong effect, in the pandemic period, this effect was strongly reduced post-pandemic with mobility playing a more significant role.

Conclusions: These results, together with previous studies, dispute the general belief that respiratory viral dynamics are mostly dictated by weather and indicate that behavioral changes resulting from the non-pharmacological interventions implemented to control SARS-CoV2, played a key role. This disruption of past dynamical equilibrium raises important questions regarding the factors that modulate them, particularly in a context of climate change.

Key messages:

- We took advantage of the disruption caused by COVID-19 to study dynamics of other respiratory viruses and to disentangle the effects of weather from those of human behavior.
- While before 2020 cold temperatures were highly correlated with incidence, afterwards cold weather was no longer a necessary condition and human mobility became central.

Abstract citation ID: ckae144.1188

Using marketing strategies to promote maternal health: an international students' collaboration

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Purpose: About 1 in 8 birth parents experience symptoms of perinatal mood and anxiety disorders (PMADs). The purpose of this collaborative project was to create a social media deliverable to lower the risk of postpartum depression in pregnant and postpartum parents in Georgia, USA.

Methods: Using the SM 10-step model, Master of Public Health Students from Georgia Southern University (GSU), Georgia in collaboration with Creative Business students from Breda University of Applied Science (BUas), the Netherlands, designed an evidence-based SM product. They were mentored by public health and media faculty from both institutions. Roles and responsibilities according to the skill sets were divided, but briefly: students 1) identified a target audience; 2) conducted tertiary data collection; 3) set goals and objectives; 4) developed 4 P's (product, price, place, and promotion) 5) developed marketing strategies.; 6) and used the strategy to create a specific social media deliverable.

Results: Utilizing the 10-step model social marketing strategy used state-of-the-art marketing and digital media techniques and evidence-based strategies to create a digital electronic booklet that focused on reducing the stigma associated with help seeking behaviors with the ultimate goal to reduce the incidence and prevalence of PMADs. The digital interactive booklet will be pilot tested in selected OBGYN offices and health departments in Southeast Georgia in July 2024.

Conclusions: This collaborative project demonstrates effective collaboration between disciplines from different world regions utilizing strengths from both teams: public health and digital media skills to create an SM product that will be utilized to promote social engagement among postpartum parents.

Key messages:

- Students utilized social marketing strategies to create an electronic booklet to address postpartum depression using state-of-the-art digital media techniques and evidence-based strategies.
- This collaborative project demonstrates effective collaboration between disciplines from different world regions and utilizes strengths from both teams.

Abstract citation ID: ckae144.1189

Video consultations among registered nurses in public sector and associated factors

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Background: In digital health services, including services for older people, video consultations can enhance access to care while enabling interaction through audio and visual means. Registered nurses are pivotal in digital care delivery and there is a need for more understanding regarding the use of video consultations in nursing. This study aims to examine factors associated with nurses' video consultations in the public sector.

Methods: The Finnish 'Survey on information systems for registered nurses' was delivered for registered nurses in March 2023. The respondents were asked whether their work had included video consultations in the past six months. Binary logistic regression was used to examine if career stage and digital skills (basic IT-skills, proficiency in data security, skills in digital working environments) were associated with nurses' video consultations, adjusted for working unit and location of employment.

Results: The study included 2,525 public sector nurses (92.7% female, mean age 47.34, SD 10.47). Of them, twelve percent had used video consultations with patients. Most nurses used video consultations in outpatient units (63.3%), whereas they were less used among those working in acute care (3.3%), housing services (3.3%) and home-based services (8.2%). Early-career nurses had lower odds (OR .38, 95% CI .19-.73) of video consultations compared to mid-career nurses. Nurses who had good skills in working in digital environments (OR 2.07, 95% CI 1.26-3.39) had greater odds of video consultations than those with poorer skills.

Conclusions: The study suggests a limited adoption of video consultations among public sector nurses, particularly among early-career professionals. Increasing targeted support and training, and the availability of tools for various patient service needs in video consultations, are needed. By recognizing the importance of nurses' digital skills, digital care delivery could be enhanced and potential public health benefits promoted.

Key messages:

- Relatively few registered nurses used video consultations in the public sector. More research is needed to explore if their usage could be increased safely for patients, also in early nursing careers.
- Proficiency in digital work environments is imperative for ensuring the quality of care in video consultations. Therefore, collaborative efforts are required to enhance professionals' digital skills.

Abstract citation ID: ckae144.1190

Leveraging digital adherence technologies to enhance public health: insights from TB care in Ukraine

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Background: Effective tuberculosis (TB) care is vital for public health, especially in war-affected Ukraine. In response to the complex healthcare delivery landscape, where traditional directly observation treatment methods became impractical, digital adherence technologies (DATs) emerged as a promising solution, offering more autonomy for people, and remote monitoring capabilities for healthcare providers.

Intervention: The PATH-led USAID-funded Support TB Control Efforts in Ukraine (STBCEU) project implemented smart pill boxes in eleven Ukrainian regions. These devices equipped with built-in reminders helped people adhere to their medication regimen, and signaled healthcare providers when the box was opened.

Results: Since April 2022, STBCEU has supported 2,022 people with TB who used smart pill boxes during their treatment, including 489 (24%) with drug-resistant TB (DR-TB). A total of 482 people continue utilizing boxes. Of 1,540 people with TB who completed the use of boxes, 1,207 people (78%) successfully completed TB treatment with an average of 84% treatment adherence rate digitally reported by the technology.

Conclusions: The integration of smart pill boxes in TB management has enhanced people-centered care, ensuring treatment continuity even in challenging circumstances and providing healthcare providers with real-time adherence data. The innovation contributed to TB control efforts and health equity through expanding opportunities for people to choose their treatment model based on their needs, available resources and community support programs. Leveraging digital solutions proved to be essential in strengthening healthcare systems. In the realm of TB management, DATs enhance differentiated care, embodying a harmonious integration of technology automation and provider interventions.

Key messages:

- Integration of smart pill boxes enhanced patient-centered care, providing real-time adherence data and empowering individuals to choose personalized treatment models.
- Digital technologies like smart pill boxes transformed TB care, offering tailored support for patients and remote monitoring capabilities for healthcare providers even in challenging circumstances.

Abstract citation ID: ckae144.1191
A mixed-methods evaluation of a virtual coach for smoking cessation and physical activity in adults

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Background: Mobile health (mHealth) interventions with virtual coaches (i.e. AI conversational agents) offer scalable and cost-effective solutions for health behavior change. We developed Perfect Fit, an mHealth intervention with a virtual coach providing personalized feedback to promote smoking cessation and physical activity simultaneously. Through innovative techniques (e.g. sensor technology) and iterative development involving end-users, we aim to overcome challenges faced by mHealth interventions, like insufficient personalization. This study examines Perfect Fit's feasibility and acceptability.

Methods: A single-arm, mixed-method, real-world evaluation study was conducted with 100 adult smokers in the Netherlands. The intervention lasted approximately 16 weeks. Data were collected at baseline and post-intervention. Quantitative data included usage data and self-report questionnaires on feasibility, acceptability and participant characteristics (e.g. eHealth literacy). Qualitative data included semi-structured post-intervention interviews with a subsample of 12 participants. Descriptive analyses (quantitative) and the Framework Approach (qualitative) were used for data analysis, and quantitative and qualitative data were integrated during interpretation.

Preliminary results: Participants adapted the use of Perfect Fit to their preferences. Many participants were satisfied with the content but missed variations in conversations with the virtual coach. The coach offered anonymity, positively experienced by some (e.g. non-judgemental), but negatively by others (e.g. lower accountability). Many participants liked the combination of smoking cessation and physical activity enhancement.

Conclusions: Findings show the potential of interventions like Perfect Fit as a multiple health behavior change strategy in promoting public health and preventing chronic disease. Findings can inform intervention development and identify methods to foster feasibility and acceptability.

Key messages:

- mHealth interventions with virtual coaches, like Perfect Fit, could promote public health.
- Targeting multiple behaviors, like low physical activity and smoking, simultaneously seems beneficial.

Abstract citation ID: ckae144.1192
Digital Health in Croatia: Key stakeholders' perspective of societal and institutional readiness

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Background: According to the literature, digital health brings an innovative approach to healthcare and an inevitable transformation and disruption. The potential of digital technologies is far-reaching, from preventive medicine to addressing public health challenges. However, the implementation also significantly depends on the social & cultural context.

Methods: To research Croatia's expectations, challenges, and readiness for implementing digital health, interviews were conducted with physicians, patients, hospital managers, policymakers, jurists, and engineers (n = 75). Following identifying key themes, a survey was conducted among Croatian medical students (n = 775) at the end of 2022.

Results: Key stakeholders believe implementation preparedness is demonstrated through institutional and societal readiness. Prominent characteristics of societal readiness include appropriate infrastructure and legal and financial frameworks. Societal readiness is assessed through digital and health literacy and existing social practices within Croatian society. Only 4.6% of medical students believe Croatia's healthcare system is ready to implement digital technologies. They perceive the highest readiness regarding digital education (63.7%) and the digital literacy of physicians (60.9%) while negatively evaluating healthcare infrastructure, financial resources, and patient literacy. The results highlight numerous aspects that must be addressed for successful implementation, many of which have been neglected in previous periods.

Conclusions: The research identifies critical aspects of the social context and presents valuable implications for the digital health transformation. Key stakeholders assess that institutional and societal readiness is not at the level required for the sustainable implementation of digital health, thus necessitating specific actions, ranging from governmental bodies and international organisations to the health system, education system, and media.

Key messages:

- It's crucial to align digital health implementation with the social & cultural context and capabilities.
- The prerequisites for successful implementation necessitate engagement across various societal domains beyond the healthcare system.

Abstract citation ID: ckae144.1193
International case studies: success and failure factors for digital transformation in healthcare

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Background: The digitalization of healthcare systems is expected to lead to improvements in the quality and efficiency of healthcare services. Despite Germany's leading economic and technological position, the implementation and utilization of digital health solutions is lagging far behind internationally. A look at other countries shows that the digital transformation in healthcare can be successful, and that financial resources and available technologies are not the only determining factors. Rather, it is a matter of political processes, the interests of different stakeholders and the acceptance of patients and HCPs.

Methods: While the impression often arises that the selection of countries in case studies is random, eight international case studies were identified using a scientific method. A systematic and multistage process was developed to select the case studies, taking into account various relevant criteria (e.g. degree of digitalization, geography, economy). The implementation and use of various digital health tools will be examined in selected countries and healthcare systems, in which the digitalization of the healthcare system is particularly advanced. Semi-structured interviews will be conducted with experts from the international healthcare systems between fall 2024 and summer 2025. The findings will inform the development of recommendations for actions for policymakers in Germany.

Conclusions: This study aims to provide new insights into the key success and failure factors for the digital transformation of healthcare systems. Recommendations for action, tailored specifically to the German healthcare system and aimed at policymakers, are intended to support decision-makers in setting the course for a successful further transformation towards digital health.

Key messages:

- International case studies will be used to identify factors that contribute to the success or failure of digital transformation in healthcare systems.
- Based on the findings of this research, recommendations for action will be developed for policymakers in Germany to set the course for the successful further digitalization of healthcare.

Abstract citation ID: ckae144.1194
Knowledge and attitudes of the Italian population on sharing health data: a cross-sectional study

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Background: Healthcare digitization enhances data accessibility but faces data management and privacy challenges. The study sought to explore the Italian public's understanding and views on storing and sharing health data for treatment and research purposes, as well as factors influencing their attitudes toward health data management and sharing.

Methods: A cross-sectional questionnaire assessed socio-demographic information, knowledge about health data sharing, and attitudes toward sharing data for treatment and scientific purposes. Descriptive analyses and multivariable logistic regressions were performed to examine the associations between sociodemographic factors and knowledge/attitudes about data storage and sharing.

Results: A total of 1,389 citizens participated. Most respondents (65.4%) thought that healthcare providers could access personal health data nationwide, while 94% expressed willingness to share personal health data nationwide. A high percentage of respondents (73%) fully agreed that storing and sharing personal health-related data could improve research and quality of care. Males and younger individuals (<41 years) were likelier to have higher data-sharing knowledge (adjusted Odds Ratio [adjOR] 1.50, 95% Confidence Interval (CI) 1.03 - 2.18, and adjOR 1.99, 95% CI 1.29 - 3.08 respectively). Lower educational-level respondents exhibited lower positive attitudes towards sharing health data for treatment and research purposes (adjOR 0.18, 95% CI 0.05-0.58 for high school, and adjOR 0.11, 95% CI 0.03-0.41 for middle school or lower, compared to those with a university degree).

Conclusions: The findings offer valuable perspectives for European policymakers, healthcare practitioners, and researchers who aim to enhance data handling, foster cooperation, and maximize the benefits of health data for tailored care and scientific progress.

Key messages:

- Italian citizens show strong willingness to share health data nationwide for treatment and research, suggesting a favorable environment for collaborative healthcare initiatives.
- Sociodemographic factors such as age and education level influence attitudes towards health data sharing, stressing interventions to ensure equitable access and participation in data-driven healthcare.

Abstract citation ID: ckae144.1195
Enhancing Public Health: training an AI chatbot for complex tasks support

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Background: The evolution of Large Language Models (LLMs) such as GPT-4, Gemini, and Copilot has transformed the field of Natural Language Processing, demonstrating human-level capabilities and potential applications in Public Health. Here, we report on the training of a chatbot model based on GPT-4 designed to assist operators with relevant and complex public health tasks.

Methods: A scoping review of existing studies on the application of LLMs in Public Health settings was conducted to understand the landscape and identify gaps in their current implementations. We then proceeded to analyse the necessary skills and competencies required for public health professionals to adequately instruct the model on required tasks. Finally, we selected the Italian regulations and guidelines with the greatest relevance in the public health field to provide the knowledge base to the model.

Results: The review revealed no relevant documents on the use of LLMs in areas related to Public Health. Skills and competencies were retrieved from the Guidelines of the Italian Society of Hygiene for Public Health operators and used to instruct the model on how to address public health tasks. As for the knowledge base, we retrieved 25 documents regulating specific areas of the public health field, such as vaccinations, hygiene and safety at work, infection prevention, and school hygiene. Such documents were used to train the model, after formatting them appropriately.

Conclusions: Despite challenges with non-standardized and technically complex documentation, preliminary testing of our model has shown its versatility and utility in supporting daily public health operations. A validation phase is under definition and will involve a DELPHI process, in which products of the custom GPT model will be evaluated by a panel of public health operators to evaluate its performance in real-world settings, ensuring compliance with national health regulations.

Key messages:

- Training a GPT-4-based chatbot to support complex tasks in Public Health, tailored by relevant national guidelines.
- Our custom model, informed by public health guidelines, showed potential in preliminary tests.

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Discrepancies in breast cancer screening and hypothesis of artificial intelligence support

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In Italy,the National Breast Screening Programme offers mammography as the 1st level examination, blindly assessed by two radiologists.In the context of continuous quality control,discrepancies in the assessment of mammograms between the 1st and 2nd reader have been studied,focusing on the most significant ones.The aims of the present study are:to evaluate the outcome of women sent to the 2nd level of review;to evaluate the possibility of using artificial intelligence (AI) software to assist radiologists in case of discrepancies. In the Local Health Authority Roma2,radiologists use a standardised classification that rates radiographs on a five-level scale from R1 to R5:R1=no abnormalities,R2=benign findings,R3=equivocal findings,R4=suspected cancer,R5=strongly suspected cancer.Data were extracted from the mammograms performed in 2023 that showed discrepancies (R1/R2 vs. R4/R5).2nd level mammography≥R4 and 2nd level histology≥B4 were considered positive. For the second aim,"IA Lunit INSIGHT" software was used to create specific target groups using the following cut-offs:G1<10%, G2 11-29%; G3 30-59%; G4 60-85%; G5 86-100%(groups ≥G3 were considered positive). Of the 36,339 mammograms,524(1.5%) were discordant:347 (66.2%) were considered suspicious by the second radiologist.49 (9.4%) were confirmed positive by Level II mammography and 23 (4.4%) reported histology≥B4. The AI red a random sample of 247 mammograms and classified 34 women as positive (1 G5, 6 G4, 9 G3), of whom 11 (4.5%) were confirmed positive by Level II mammography and 6 (2.4%) were histologically positive. Of the negative women, 2 had histology≥B4. Discrepancies may be one of the factors leading to inappropriate referral to second level investigation. In such cases, the use of AI may improve the appropriateness of further investigation, although this hypothesis needs to be tested in larger numbers, with additional comparisons with experienced radiologists and consideration of retraining.

Key messages:

- Continuous monitoring in cancer screening programs are vital to assure a sustainability of the process.
- Artificial Intelligence software are promising in aiding health care professionals in case of discrepancies.

Abstract citation ID: ckae144.1197

Evaluating Accuracy of AI-Generated Travel Vaccine Recommendations: GPTs in Public Health

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Introduction: Artificial intelligence (AI), particularly generative pre-trained transformers (GPTs), holds promise for enhancing public health strategies like travel vaccine recommendations. This pilot study evaluated GPTs' accuracy in delivering tailored vaccine advisories compared to standards set by public health professionals. Integrating AI's data analysis capabilities into healthcare decision-making could improve recommendation precision and personalization.

Methods: This retrospective study analyzed GPT travel vaccine recommendation accuracy against a gold standard from health professionals for 90 travelers visiting various countries. Sociodemographic data and vaccine recommendation outcomes were examined. Accuracy assessments were stratified by age, sex, country of travel, duration of travel, type of travel, and specific vaccines.

Results: Preliminary results showed an 77.43% overall accuracy across all vaccine recommendations. Specific vaccine accuracies varied, with 97.78% alignment for hepatitis A, 93.51% for typhoid fever and 89.36% for rabies. However, lower accuracies were observed for cholera (33.33%) and encephalitis (56.25%). Moderate accuracies were noted for yellow fever (75%), 74.07% for malaria prophylaxis, diphtheria and tetanus (63.33%), and dengue (57.58%). Stratified analyses are expected to provide more realistic results and highlight discrepancies in certain groups.

Conclusions: This pilot demonstrates GPTs can be a valuable tool for supporting international vaccination professionals, but they are still not a substitute for these professionals, achieving 77.43% overall accuracy. Recommendations include: a) Educate health professionals in the use of GPTs, b) Developing guidelines for ethical and accurate AI use in public health, c) Using AI to strengthen surveillance and response systems. Combining AI with traditional strategies aims to optimize international traveler health outcomes.

Key messages:

- Using artificial intelligence can optimize and facilitate the task of clinical consultancy in traveler's advice.
- It is necessary to establish guidelines for AI use to ensure ethical and accurate applications.

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Application of artificial intelligence to study the causality in public health: a systematic review

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Introduction: In epidemiology, establishing causation requires meeting rigorous criteria beyond mere association. Traditional methodologies often struggle to provide definitive causal conclusions due to confounding variables. However, leveraging artificial

Intelligence (AI) and machine Learning (ML) offers a promising solution by modeling complex interactions among relevant factors. This systematic review explores the AI techniques utilized to uncover causal relationships in public health applications.

Methods: A literature search was conducted in Pubmed, Web of Science, and Scopus, employing the following search strategy: (Causalit*[Title/abstract] OR Causation*[Title/abstract] OR Causal [Title/abstract]) AND ('Machine Learning'[Title/abstract] OR "Deep Learning" [Title/abstract] OR 'Artificial Intelligence' [Title/abstract] OR Algorithm* [Title/abstract]). The search aimed to identify studies encompassing causal inference techniques utilizing ML and AI methodologies in public health.

Results: From a total of 28,230 articles published up to August 2023, after removing duplicates (11,158) and articles that did not meet the inclusion criteria (16,168 post title/abstract screening, and 856 post full-text screening), the systematic review included 48 articles. Bayesian additive regression trees, Bayesian network models, causal forests analysis, and graphical causal models emerged as the prevailing causal methodologies. AI-driven causal methodologies have been investigated across various domains within public health, encompassing disease prediction, evaluation of treatment efficacy, identification of risk factors, analysis of health behaviors, precision Public Health initiatives, and environmental health assessment.

Discussion: While our systematic review affirms the potential of AI-driven causal approaches across several public health domains, further research is warranted before these emerging techniques can be effectively integrated into real settings.

Key messages:

- In epidemiology, establishing causation requires meeting rigorous criteria beyond mere association and traditional methodologies often struggle to provide definitive causal conclusions.
- This systematic review explores the AI techniques utilized to uncover causal relationships in public health applications.

Abstract citation ID: ckae144.1199
Exploring Meditron-7b performance on a small-scale purpose made dataset in human nutrition queries

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The interest in Large Languages Models (LLMs) has been rapidly evolving over the last years, boosting concerns about their potential to improve the efficiency and effectiveness of clinical, educational and research work in medicine. In this study, we aimed to test the performance of MEDITRON, a recently released suite of open-source LLMs with 7B parameters adapted to the medical domain, on a small sample of human nutrition queries. To facilitate our assessment, we curated a specialized dataset comprising a diverse range of human nutrition-related queries, which have been manually collected from various medical databases and nutrition exams. The dataset was adapted for the scope of our analysis to encompass variations in language complexity, query types, and semantic nuances commonly encountered in real-world settings. Additionally, to ensure a standardized and clinically relevant context for our evaluations, we engineered a specialized prompt designed to mimic interactions with a highly esteemed physician specializing in nutrition, food science, and diet-related disorders. The prompt guided the generation of nutrition-related queries in a structured format, enabling MEDITRON to provide responses consistent with the latest advancements in medical research. Our preliminary findings revealed promising capabilities of MEDITRON in understanding medical language, providing contextually appropriate responses to several human nutrition related questions. Through this study, we add valuable insights to the ongoing discussion around the deployment of LLMs in public health, highlighting their potential to improve access to essential human nutrition literacy.

Key messages:

- Design of LLMs tools holds the potential to improve healthcare in clinical, research and education applications.
- Further evidence is needed to foster their actual integration in real world settings.

Abstract citation ID: ckae144.1200
Different approaches to regulate digital health applications in seven European countries

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Background: Demographic ageing, shortages in health workforce and increased use of digital tools in daily life kindle decision makers' interest to utilize digital health applications (DHA). While there are several reviews that provide an overview across remuneration frameworks, no synthesis between additional regulatory aspects and frequency of remuneration approval has been conducted.

Methods: European countries with either strong status in digital health in general or regulation for health apps in particular were chosen for analysis (BE, DK, DE, EE, EN, FR, NL). Country specific information was collected from scientific and grey literature, legal and stakeholder webpages. Semi-structured interviews were conducted with country experts via video call or e-mail and analyzed using Mayring's structured, qualitative content analysis.

Preliminary results: We find three approaches concerning DHT-definitions: For BE, DE, FR, specific regulations define national remuneration requirements. EN and NL define only minimum requirements while decentralized payors make financing decisions. DK and EE fit DHTs into existing financing schemes. Among countries with a national financing framework, DE achieved the largest number of approvals, followed by FR, while BE has not yet issued a (lasting) financing approval. Evaluation requirements focus on clinical and economic outcomes, largely ignoring non-clinical improvements for patients.

Conclusions: The German regulation stands out with a peculiar definition that might help clarify evaluation criteria, increase the number of financing approvals but also empower patients while reducing the role of health workforce in their application. BE and NL regulations necessitate involvement of health workers, thus addressing structurally different applications.

Key messages:

- Drawing lessons for DHT regulations across countries needs to address differences in national definitions and evaluation criteria.
- A standardization system for DHT may help to speed utilization of effective tools and clarify evaluation requirements.

Abstract citation ID: ckae144.1201
Digital Health Interventions' Impact on Health Literacy: A Systematic Review

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In the digital era, health literacy is crucial for informed health decisions and outcomes. This systematic review evaluates the effectiveness of digital health interventions (DHIs) in enhancing health literacy, as defined by the World Health Organization. We included a variety of studies, such as cross-sectional studies, surveys, and case reports, focusing on interventions like mobile health apps, online platforms, and telehealth services. Our search, adhering to PRISMA guidelines, spanned databases like PubMed, IEEE, and ACM, covering publications from 2013 to 2023. From 1,029 initial articles, 58 met our inclusion criteria after rigorous screening and duplicates removal. Our findings highlight that DHIs, including multimedia tools and remote sessions, significantly bolster health literacy across diverse populations. However, the impact varies due to the digital divide, influenced by factors like age and socioeconomic status. This review underscores the potential of DHIs in public health and the necessity to address accessibility to reduce health disparities. The full synthesis of data and methodological details will be discussed in the presentation, aiming to guide future digital health strategies and policies.

Key messages:

- Digital Interventions Enhance Health Literacy Across Diverse Populations.
- Addressing the Digital Divide to Ensure Equitable Access to Health Benefits.

Abstract citation ID: ckae144.1202
Multi-objective Symbolic Regression for Clinician-in-the-loop Machine Learning algorithms

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Background: The power of machine learning (ML) in medicine is further enhanced by input from clinical experts with detailed knowledge of phenomena explored and the organization in which the ML models will be deployed. This input is needed not only in the problem conception and evaluation, but also in the training itself using the clinician-in-the-loop approach. We explore the applicability of such an approach to Multi-objective Symbolic Regression (MOSR) and compare it with state-of-the-art methodologies.

Methods: This is a retrospective study based on the admission data of 22576 patients routinely collected by the intensive care units (ICU) of Guy's and St. Thomas' NHS Foundation Trust in central London between April 1st, 2008, and December 31st, 2022. Patient-level data was used, including blood tests, urine tests, medical history, signs, symptoms, and common clinical scores. The outcome was modelled as a binary classification; four experiments were executed predicting mortality at 7 days (4.5% of patients), 30 days (10.2%), 6 months (17.4%) and 12 months (21.2%). A random train-test split of 80/20% ratio was performed. Clinician-in-the-loop approach used a Multi-objective Symbolic Regression algorithm bespoke designed to also optimize for the F1-score.

Results: For all four experiments, MOSR outperformed all other available ML algorithms providing significantly higher F1-scores and AUC. This makes MOSR the most competitive algorithm, particularly for imbalanced datasets such as typical ICU admission data.

Conclusions: We have demonstrated how ML algorithms designed for a clinician-in-the-loop approach outperform standard off-the-shelf alternatives and note the role of the application environment and clinical knowledge in the training itself enhancing the model performance. We therefore champion the adoption of approaches that, like MOSR, enable clinical input also in shaping the training behaviour.

Key messages:

- The input of clinical knowledge and understanding of the application domain dynamics are crucial for ML development in healthcare.
- In Health Data Science we need ML algorithms like MOSR capable of receiving clinical input also in shaping the training behaviour.

Abstract citation ID: ckae144.1203
AI-Enhanced Allergy Diagnostics: Streamlining Healthcare and Reducing Costs

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Issue/Problem: WHO projects a shortfall of 10 million health workers by 2030. One area particularly lacking technological support is allergy diagnostics. The World Allergy Organization recognizes skin tests as the gold standard for allergy diagnostics, yet these tests are still manually assessed. General practitioners lack the time and tools, leading them to focus on treating the symptoms without addressing the causes.

Description of the problem: Symptomatic treatment of allergy can lead to the development of asthma in 30-40% of patients, increasing healthcare costs and causing lost productivity. The shortage of allergists further exacerbates this issue in many countries.

Results: Research conducted by the Military Institute of Medicine in Warsaw, in collaboration with a company producing automated allergy testing systems, explored a solution for allergy diagnostics, analyzing the entire process from the patient's initial visit to desensitization therapy. The solution uses AI algorithms to reusable existing patient data and analyze patient history, correlate symptoms, medications, and allergen exposure, streamlining diagnostics and treatment. Patients at high risk undergo a computer-assisted interview to determine allergen panels. The only manual step is applying allergens to the skin, after which AI performs the reading and diagnosis.

Clinical trials involving around 300 patients demonstrated high sensitivity and specificity, along with significant time savings for allergists and other medical staff, averaging 40 minutes per patient. The HTA evidence base will be ready by the end of this year.

Lessons: The integration of this AI-supported diagnostic method can eliminate bottlenecks in allergy diagnostics, improving health outcomes and reducing healthcare costs. However, its effectiveness depends on having at least few years of patient treatment data available. Without access to patient data, the method can be used in part to objectify PRICK test readings.

Key messages:

- AI-supported diagnostics streamline allergy testing, reducing time and costs in the healthcare system.
- The most accurate technique currently available for the automated reading of test results is that which evaluates the response to an allergen in the dermis in two spectra.

Abstract citation ID: ckae144.1204
Investigating the impact of the WHO Hive platform for health emergencies preparedness and response

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Background: Recent global health emergencies, such as the COVID-19 pandemic, showed there is a growing need for enhanced collaboration and knowledge sharing across global health communities. The WHO Hive platform provides a centralized hub for public health experts to connect, share and access valuable resources. This study aims to analyze the impact of the Hive following its launch of 4 tools within the Hive to enhance engagement and collaboration: Community space, Chat and discussion forum, Video conferencing, Hive drive document repository. The study will explore further technological and structural needs required to increase its usage in health emergency preparedness and response.

Methods: This study employs a structured survey for users of the Hive that will be anonymized and stratified by non-identifying data such as professional roles and geographic locations to highlight trends and patterns within specific subgroups. This approach ensures that the analysis is representative of the diverse user base on the Hive platform, with currently over 700 public health experts from more than 200 organizations across 105 countries.

Expected Outcomes: The study is expected to provide a comprehensive evaluation of Hive's operational effectiveness in enhancing community collaboration, engagement, and knowledge-sharing, and highlighting its strengths and areas for improvement. The results will help inform future development to enhance collaboration and engagement.

Conclusions: The WHO Hive offers a unique value proposition as a platform developed by a trusted global health authority, enhancing credibility and fostering greater participation between health professionals. Feedback from the users is crucial to optimize future development to sustain it as a resource for health emergencies preparedness, readiness and response.

Key messages:

- Digital tools for stronger health emergency preparedness and response to enhance collaboration and engagement.
- Highlighting key areas for digital integration to strengthen health emergency preparedness and response.

Abstract citation ID: ckae144.1205
GPT models classify free text from emergency department accesses in children with medical complexity

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Background: Emergency Department (ED) management software often collects clinical information as free text, but its unstructured nature limits routine use. While Machine Learning (ML) techniques have been employed to classify such information, they demand substantial data and computational resources. GPT-based models, using direct text prompts, offer a solution without requiring retraining, potentially simplifying clinical practice.

Aims: To assess OpenAI GPT's performance in automating data extraction from ED medical records of complex pediatric patients.

Methods: Electronic admission records of children and young adults referring to the pediatric ED of Padova University Hospital (2007-2023) were analyzed. Principal variables of interest were discharge diagnosis, reason for ED access, required medical procedures, color code at triage, color code at discharge/hospitalization, outcome of the access. GPT-4 classification, via OpenAI API, was compared with manual classification by an expert pediatrician on sample of 791 records.

Results: Preliminary results of this study analyzed 107 records, showing a correct classification of discharge diagnosis in 95% of records. The reason for access to the ED was correctly identified in 97% of cases, while outcome of admission and color code, both at triage and discharge/hospitalization, were correctly classified in all given cases. Misclassification occurred mainly in cases where classification made by the model was incomplete (e.g., in the case of a trauma, abbreviated site of lesion was not identified by the model).

Conclusions: GPT-based models demonstrate feasibility, accuracy, and efficiency in transforming unstructured data into structured formats. Ultimately, GPT-based models could provide aid to the medical personnel in decision-making processes.

Key messages:

- Emergency departments often collect clinical data in unstructured free text format, resulting in usability limitations.
- GPT-powered models efficiently convert unstructured data to structured formats, offering potential support for medical decision-making.

Abstract citation ID: ckae144.1206
National implementation of telehealth in Denmark: A case study

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Background: With a growing number of chronic patients and a shortage of healthcare professionals, modern health systems face mounting economic pressures. Telehealth has emerged as a promising solution to address these challenges and is considered a critical component of future healthcare provision. However, implementing telehealth on a large scale is complex and challenging. To fully grasp these challenges, it is essential to look beyond the technology and delve into the processes and actors involved in its implementation. Actors on a political-administrative level are pivotal in large-scale implementation, yet this level remains understudied. Thus, this study investigates the dynamics of large-scale implementation at a political-administrative level through a case study of the national implementation of TeleCOPD in Denmark - a home-monitoring intervention targeting patients with Chronic Obstructive Pulmonary Disease (COPD).

Methods: An in-depth qualitative study of the implementation process at the political-administrative level was undertaken. Data consisted of comprehensive documentary material, including policy documents and meeting minutes and 12 semi-structured interviews with 16 key stakeholders across all levels of the implementation process. Data was analysed in accordance with thematic analysis using an abductive strategy.

Results: The analysis shows that large-scale implementation of telehealth is a profoundly complex process, necessitating the collaboration of various stakeholders across organisational hierarchies. Substantial translational work is required at the political-administrative level to implement telehealth across diverse organisational contexts. Moreover, understanding the role of context in this translation process is essential.

Conclusions: This study generates valuable knowledge about large-scale implementation of telemedicine in addition to insights into the role of the political-administrative level in the implementation process.

Key messages:

- Implementing telehealth nationally involves intricate translation processes at multiple levels.
- Balancing local adjustments with degrees of fidelity is crucial in large-scale implementation.

Abstract citation ID: ckae144.1207
Inferring diagnoses from prescription data: a machine-learning approach

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Estimating disease prevalence is a fundamental while challenging public-health goal: in the absence of solid diagnostic data, it typically requires expensive and time intensive studies. Analyzing existing medical records is an alternative, complementary approach. In particular, prescription records offer a glimpse into the health status of populations, prescribing patterns, and operational dynamics. We asked whether these could be used to infer diagnostics and, therefore, estimate disease prevalence. We used the Portuguese electronic medical prescriptions dataset (ADD NUMBERS) and trained a machine learning model that captures the probability that specific drugs are prescribed for the same or related medical conditions. We 1) constructed a manually-curated dataset of diseases and associated medications; 2) used this dataset to train embeddings models; 3) tested these models against human-classified data; 4) used the trained/tested model to uncover comorbidities associated with a) antibiotic prescription (to validate the model), and b) the impact of COVID-19 in prescription patterns of chronic-diseases. The model was able to accurately identify drugs used for targeting ten specific diseases, with few false positives and false negatives. Our analysis showed that the COVID-19 pandemic had almost no effect on the number of prescriptions for some chronic diseases (such as diabetes and depression), but, importantly, had a strong impact on the number of new diagnoses, with new users of diabetes medication in 2019 dropping by more than 16.8% in 2020. Medical prescriptions offer a promising tool to quickly assess disease prevalence, underdiagnosis, and allow a broad overview of the medical status of the population, especially in the face of health emergencies that strongly pressure the medical system.

Key messages:

- We propose a new approach to infer diagnostics from prescription data with several promising applications.
- We propose a new approach to infer diagnostics from prescription data with several promising applications.

Abstract citation ID: ckae144.1208
Clustering Portuguese municipalities based on population health indicators

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Background: The large number of publicly available health-related indicators poses challenges in health planning to policymakers. Identifying patterns among municipalities may assist these processes, by grouping similar contexts and pointing out relevant differences among neighbouring locations. The aim of this work was to define clusters of municipalities based on health-related indicators.
Methods: All health-related indicators available at municipality level for the year 2021 were obtained from the Portuguese National Statistics Office website. Missing values were imputed with the closest available year or excluded. Indicators were standardized and K-means clustering was applied. Elbow criterion was used to select the optimal number of clusters. Sensitivity analysis was performed with a priori exclusion of indicators less directly associated with health outcomes.
Results: The clustering analysis revealed five distinct clusters of municipalities. Clusters were associated with specific socio-demographic patterns, providing insights into common health challenges and strengths within each group. Interestingly, geographic profiles emerged (e.g. coastal vs inland), despite no geographic information being specifically provided. One outlier municipality was identified (Lisbon), highlighting a need for special consideration.
Conclusions: Clustering techniques provide a data-driven approach to inform public health planning. Our findings show previously unrecognized patterns and relationships between municipalities. Using these clusters, policymakers may implement interventions based on what has been proven to work in similar contexts, enhance collaboration opportunities and promote a tailored policy development, contributing to an overall improvement of public health outcomes.

Key messages:

- Clustering machine learning techniques provide a data-driven approach to inform public health planning.
- Identifying comparable municipalities based on health-related indicators allows targeted public health interventions.

Abstract citation ID: ckae144.1209
AI-Powered Post-Discharge Monitoring to Prevent Patients Readmissions and Reduce Workforce Burden

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Background: Patient readmission poses a significant burden on healthcare systems, straining resources, negatively impacting patient treatment, and it is often a Public Health problem. Traditional post-discharge follow-up methods, such as phone calls, often lack efficiency and personalization. Artificial intelligence (e.g., Machine Learning (ML)) offers a transformative approach that can potentially improve post-discharge care.
Methods: This scoping review aimed to map existing research on AI-powered solutions for post-discharge monitoring, focusing on their application in risk stratification and their potential for reducing hospital readmissions within a public health framework. Following PRISMA-ScR guidelines, a search was conducted across four databases using keywords related to AI, post-discharge, and risk stratification.
Results: Studies published between 2018 and January 2024 were included if they described the development and application of an

ML model in a post-discharge setting for risk stratification. Sixteen studies met the inclusion criteria. Tree-based algorithms, particularly XGBoost, were the predominant ML approach, with promising performance metrics for readmission risk prediction.

Conclusions: However, limitations were identified, including restricted generalizability due to data source limitations and a lack of real-time implementation in many studies. This review highlights the potential of AI in post-discharge monitoring, particularly the use of ML for risk stratification, as a promising tool for public health contact tracing. While challenges remain regarding generalizability and real-world implementation, the findings suggest AI holds immense promise for improving post-discharge care, potentially reducing readmissions, and optimizing resource allocation. Future research with broader datasets and real-time applications can further solidify the role of AI in revolutionizing post-discharge care within public health systems.

Key messages:

- This study shows the potential of AI and risk stratification in post-discharge monitoring, improving public health outcomes by reducing hospital readmissions and optimizing the healthcare workforce.
- This review highlights the value of AI in public health, particularly for improving post-discharge care through effective prediction of high-risk readmissions.

Abstract citation ID: ckae144.1210
Impact of in-silico technologies in the development of high-risk medical devices on healthcare

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This study examines the impact of in-silico technologies (IST), such as virtual cohorts and digital twins, on the development of high-risk medical devices within the healthcare sector. An iterative empirical approach combining a literature review, exploratory and in-depth interviews with stakeholders from academia, industry, regulators, healthcare professionals, and focus groups with patients across Europe, Japan, and the USA was employed to gain insight into the implications of IST on healthcare. The findings indicate that IST can reduce the time to market for medical devices, thereby facilitating faster, broader, and more equitable access for patients. The implementation of extensive early testing, optimized study designs and increased sample sizes in trials can facilitate the achievement of enhanced safety. The early identification of adverse effects can enhance the safety of medical devices and improve patient outcomes. Furthermore, IST may facilitate the inclusion of underrepresented groups, such as children, in clinical trials, thereby enhancing their representation in medical research. The reduction in costs associated with IST may facilitate innovation cycles. However, the impact on prices is contingent on competition. Furthermore, IST have the potential to reduce the need for animal testing. Nevertheless, several uncertainties and potential adverse effects have been identified. Physician training on new devices remains a bottleneck, which may limit the benefits of new products. Despite the advancements, a complete replacement of traditional clinical and preclinical trials with IST is not seen to be feasible. From a policy perspective, it is crucial to promote regulatory clarity by providing guidance for the usage of IST, to offer incentives for the adoption of IST, and to foster competition. These findings demonstrate the multifaceted potential benefits and challenges of IST, including enhanced safety, accessibility, and innovation in healthcare.

Key messages:

- In-silico technologies can reduce time-to market of medical devices up medical device and improve safety for patients.
- Challenges like physician training and regulatory guidance must be addressed to fully realize benefits of in silico technologies.

Abstract citation ID: ckae144.1211
Using electronic health records in assessing the prevalence of hypertension in Kyrgyzstan

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Background: Non-communicable diseases are an increasing challenge in Kyrgyzstan as well as in other parts of Central Asia. However, there is very little epidemiological data on disease burden in the country. The development of electronic health records in primary health care provides an opportunity to assess the disease incidence and prevalence among patient population.

Methods: All patients with hypertension (HT) diagnoses (ICD-10 I10-I15) were identified from electronic health records used in primary health care in Kyrgyzstan from years 2021, 2022 and 2023 from all 7 regions and Bishkek and Osh cities ($n = 132621$-152743). Each year, all patients diagnosed with HT during that year or in previous years were included, while those who had passed away were excluded. The incidence and prevalence of patients was calculated using as denominator both the patients who had visited the services as well as registered patients.

Results: The prevalence of patients with hypertension calculated using patients with service use as denominator varied by region between 10.2% to 14.0% and was pretty stable during the observed period. The prevalence was the lowest in Chui region and the highest in Bishkek city. When the prevalence was calculated using the registered patient population the prevalence was only between 1.5% to 3.1%.

Conclusions: The observed prevalences were notably lower compared with data from WHO Steps surveys, which have reported a hypertension prevalence more than 40% among individuals aged 25 to 64. It is known that only approximately 25% of the population in Kyrgyzstan utilize primary healthcare services, with maternity care comprising the largest portion. This factor, coupled with cases that go undiagnosed, could potentially account for the observed low prevalence in electronic patient data. However, the electronic patient records provide useful information on diagnostics and disease burden in the country that can be used in developing the services.

Key messages:

- Electronic health records have developed quickly in Kyrgyzstan and enable extraction of patient data from primary health care.
- The low use of primary health care services complicates the use of register data in assessing the disease prevalences.

Abstract citation ID: ckae144.1212
Developing an mpox risk assessment matrix for social listening and infodemic insights generation

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Issue: Any effective response to an infodemic, requires prioritizing public health response on identified narrative themes that pose highest risk to health and well-being of populations. High-risk narratives often require more swift and far-reaching action and low-risk narratives require little or no response.

Description of the problem: Different countries are assigned different levels of risk to specific narratives or concerns, recognizing that for some issues there may be a large gap between the true public health threat and what is generating lots of conversations, concerns and press coverage that indicate a high degree of risk perception that may be unwarranted. WHO developed a risk matrix to apply to global analysis of questions, concerns and narratives about mpox, which resulted in biweekly infodemic intelligence reports that risk-assessed identified infodemic themes and corresponding recommendations for action.

Results: Risk assessment criteria were defined in the context of WHO's global infodemic insights analysis for low, medium and high risk and positive sentiment in mpox global outbreak context before conducting the integrated analysis so that insights were reproducible and infodemic response actions were prioritized. This implemented the WHO/UNICEF training manual on 6 steps to produce an infodemic insights report, which includes tools on how to develop and apply a risk matrix for a specific public health question of concern and apply it in analysis.

Lessons: The approach resulted in rapid, systematic, reproducible and evidence-driven decision-making to respond to the infodemic accompanying the mpox global outbreak. Risk matrices must be adapted to the context of the public health event and the mandate of the health authority taking action. An mpox risk matrix for narratives included adaptation to reflect high-risk from stigmatizing narratives, as well as narratives circulating around or within LGBTQI+ communities.

Key messages:

- A risk matrix must be developed and adapted to the context of each health emergency and level of health authority action.
- Prioritization for rapid infodemic response based on a risk assessment is that it facilitates more effective response in a health emergency.

Abstract citation ID: ckae144.1213
Development of an assessment process for digital medical devices in Austria

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Issue/problem: Digital medical devices have experienced a rapid development in recent years and are playing an increasingly important role in healthcare. These devices offer numerous benefits and can improve patient care. However, despite their potential benefits, the use of digital medical devices also poses risks and regulation from governmental side is needed from a Public Health Perspective. This is why some countries already implemented assessment processes for Digital Medical Devices (e.g. Germany and France) leading to the question how such a process could be established in Austria too.

Description of the problem: While digital medical devices must fulfil requirements set by the medical device regulation to enter market, several other aspects are of interests when offering digital medical devices in routine care. These include e.g. medical effectiveness, data security and interoperability. The objective of the ongoing pilot project is to develop a process for the assessment of quality-assured digital medical devices in Austria in 2024. For this, a combination of literature research, interviews and workshops with relevant stakeholders is used in order to gain all necessary information. Process and assessment criteria will be tested and revised in a pilot phase with several digital medical devices.

Results: At the end of the project, an assessment framework as well as a potential evaluation process will be designed in accordance with relevant stakeholders. Moreover, legals aspects and the potential integration into the austrian health telematics infrastrucutur will be assessed. This will form a basis for implementing digital medical devices within the austrian healthcare system.

Key messages:

- The result of this project aims to build the basis for implementing an evaluation process for digital medical devices in Austria.
- The establishment of an evaluation process for digital medical devices supports the integration of quality assured digital medical devices in healthcare.

DC. Poster display: Global health and One Health

Abstract citation ID: ckae144.1214
Poultry farms as a One health priority for Aspergillus section Fumigati surveillance

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In poultry production environments, particulate matter (PM) is considered one of the harmful air pollutants [2]. Considering potential biological pathogens, the genus Aspergillus in particular, Aspergillus fumigatus, is a widely recognized human and animal pathogen [3]. Hot-humid farm environments could contribute to the proliferation of these fungi [4]. Therefore, poultry production workers, besides animals [4], may be at a higher risk of inhaling fungi spores [4,5]. This study aimed to determine particulate matter (PM) contamination and analyze the prevalence of Aspergillus section Fumigati in air samples from poultry pavilions. Indoor and outdoor air samples were taken in the 1st, 2nd and 3rd weeks of birds growth cycle ($n = 58$). Air was collected through the impaction method (MAS-100) onto polycarbonate filters, set at 100 L/min, for 5 min. Followed by DNA extraction, and real-time PCR detection of Aspergillus section Fumigati. For PM evaluation, portable direct-reading equipment (Lighthouse, model 3016 IAQ) was used. Particle concentrations were measured ($n = 67$) at five distinct fractions during 5 min. Considering particles fractions, PM10 and PM5 where prevalent in 1st (58% PM10; 28% PM5), 2nd (63% PM10; 26% PM5) and 3rd (64% PM10; 25% PM5) weeks. These results evidence that coarse particles (between 2.5 and 10 µm) are the most relevant PM present in this setting. Regarding fungal detection, Aspergillus section Fumigati was widespread inside poultry pavilions (62%, 26 out of 42), highlighting this environment has a potential reservoir of microbial pathogens [7]. Furthermore, PM can act as a host of biological fragments [6]. Overall, in addition to molecular analysis, future studies should consider using culture-based methods to assess the viability of pathogenic microorganisms and their infection potential [3]. From a One Health perspective, quantitative and qualitative research is required to fully understand this environment.

Key messages:

- This study evidence that coarse particles (between 2.5 and 10 µm) are the most relevant PM present and Aspergillus section Fumigati is widespread in poultry pavilions.
- A One health intervention should be considered in future studies.

Abstract citation ID: ckae144.1215
Global health resource distribution during COVID-19 and in future pandemics: Here's what people say

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During the COVID-19 pandemic, countless individuals across the world needed novel and sophisticated health care resources simultaneously, leading to dramatic global shortages. How to distribute resources in such situations? This dilemma is neither new nor understudied: Its complexity is well known to medical ethicists, public health scientists and philosophers. Building on this knowledge, powerful global distribution frameworks were proposed already early into the pandemic. Despite this knowledge, no globally consensual regulations existed (and exist) on the political sphere. Worse still, numerous countries hoarded resources for themselves, increasing global inequalities and prolonging the pandemic for everyone. For future emergencies, it is thus necessary to develop immediately applicable strategies. Because public acceptance is key for such interventions, evidence on the public opinion towards allocation principles is strongly needed. In 2021, we asked representative samples of $N = 2694$ adults in England and Germany to rate seven COVID-19-specific global allocation principles. In line with literature on justice attitudes in general, extensions of bifactor(S-1) models showed that participants would have preferred a more equity- or equality-based global resource distribution during the pandemic, presenting themselves as more cosmopolitan than global leaders. Trying to understand these attitudes better, we tested pre-registered hypotheses on relations with other constructs and found positive associations between equity- and equality-directed preferences and global human identification, among others. To ensure generalisability on future pandemics, we collected data from a second cohort in spring 2024. All results will be presented in detail. With their responses, European citizens call upon the development of fairer and more efficient global distribution mechanisms. This global public health perspective could inform preparations for future global emergencies.

Key messages:

- European citizens would have preferred a more equity- or equality-based global distribution of scarce health care resources during the COVID-19 pandemic than global leaders organised.
- Citizens' global perspective on public health and their strong emphasis on global fairness should inform preparations for future pandemics and other global emergencies.

Abstract citation ID: ckae144.1216
What are the health system impacts of engaging with global health activity? A qualitative study

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Background: Global health partnerships between high-income health systems and low- and middle-income countries (LMICs) are becoming more common as there is an appreciation of the need for collaboration to solve global health issues through knowledge and skill exchange. However, partnership evaluations largely focus on the benefits to individual participants and recipient systems, with little evidence of the impacts on the high-income system. Therefore, the aim of this study was to explore the health system-wide impacts of engaging with global health activity and consider the arguments for and against adopting these partnerships.

Methods: We carried out semi-structured interviews with individuals from three UK health systems that engage with global health activity to explore their motivations to in doing so. Transcripts were thematically analysed.

Results: We found that engagement in global health activity can contribute to workforce recruitment, retention, development, and upskilling, benefiting the system. Examples were also given of system-wide clinical, reputational, and economic benefits. However, this activity impacts short term staffing and can cause personal emotional issues that systems need to support.

We also explored facilitators of engaging in global health work which included operational support, supporting healthcare staff to engage, and system acceptance. Barriers included lack of senior buy-in, opportunity access inequities, operational challenges, and the current UK health system challenges.

Conclusions: This study demonstrated the potentially significant system-level benefits of engaging in global health activity. These focused on improved workforce, which is a major public health issue worldwide. We have also identified system characteristics, such as buy-in and operational support, which influence success. We hope this work provides a building block demonstrating there are benefits to be had for donor health systems, but barriers must be overcome.

Key messages:

- The potential benefits and drawbacks that may arise from high-income health systems engaging in global health, as well as facilitators and barriers, are explored.
- This study creates a foundation to understand donor-system benefits and encourages further research, particularly in systems who do not engage with global health activity to understand why this is.

Abstract citation ID: ckae144.1217
Sailing along the global tobacco supply chain: public health insights of innovative database project

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Background: Tobacco control commonly focuses on reducing tobacco demand rather than tobacco supply. This paper presents findings from a major four-year project on the tobacco supply chain. Transnational Tobacco and Leaf Companies (TTLCs) and other tobacco supply chain companies argue that provision of livelihoods, exports and corporate social responsibility (CSR) exonerates tobacco. Our objective was to consider these claims.

Methods: This paper presents the results of three studies: a literature review and two analyses of data from the innovative Tobacco Supply Chain Database (TSCD). Study 1: A scoping review of academic literature (n = 124 papers) reviewing how the tobacco supply chain embeds the tobacco industry as a development actor. Study 2: The statistical association between countries hosting TTLC subsidiaries (TSCD) and TTLC interference in health policy (Global Tobacco Industry Interference Index) was analysed (n = 76 countries). Study 3: Document and website analysis of TSCD non-TTLC tobacco supply chain companies comparing descriptions of CSR and tobacco supply chain involvement (n = 80 companies).

Results: Study 1: Although there are instances of advantages of involvement in the tobacco supply chain, TTLCs tends to be associated with declines in tobacco workers' income, equality, quality of life (cultural and health and wellbeing) and nations' environment and economy. Study 2: Countries that hosted more TTLCs had more policy interference (farming subsidiaries p=.046, tobacco product manufacturing subsidiaries p=.008). Study 3: Non-TTLC companies often lack transparency regarding their connection to tobacco. For example, 68% linked to CSR activity on their homepage whereas only 16% linked to involvement in the tobacco supply chain.

Conclusions: Tobacco supply chain involvement is detrimental to public health, the environment and governance. Countries and companies should seek to extricate themselves from the tobacco supply chain.

Key messages:

- Tobacco supply chain involvement weakens public health governance despite CSR activities. Lack of transparency on supply chain involvement by companies is thus a concern.
- The new Tobacco Supply Chain Database illuminates previously hidden areas of the tobacco supply chain: the location of tobacco industry subsidiaries and presence of independent companies.

Abstract citation ID: ckae144.1218
Occupational Hazards: The Impact of Streptococcus suis Infections in Portuguese Pig Farming

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Background: In Portugal, the commensal and opportunistic bacteria Streptococcus suis is prevalent among pigs. Recognizing its public health significance, this systematic review investigates the relationship between occupational exposure in pig farming and the incidence of S. suis infections among workers. The importance of this study is to identify high-risk occupational activities and formulate effective public health interventions.

Methods: This review analyzed 20 scientific studies from 1986 to 2023 on human infections with S. suis in Portugal. The primary sources included articles in Portuguese from databases like MedLine, Scopus, and Pubmed. Studies were selected based on their focus on occupational exposure and the details provided on epidemiological context, clinical presentations, and outcomes.

Results: The review found that 85% of infection cases occurred in occupational settings, particularly among butchers (53%) and pig breeders or handlers (29%). Clinical manifestations predominantly included acute bacterial meningitis, with significant occurrences of neurosensory hearing loss as a sequelae. The average age of affected individuals was 44, predominantly male.

Conclusions: The study confirms a significant correlation between occupational exposure in pig farming and S. suis infections in humans. The findings underscore the need for stringent occupational health measures and integrated approaches encompassing human, animal, and environmental health under the One Health initiative. Innovations in public health interventions recommended include enhanced surveillance, improved workplace hygiene, and targeted health education for at-risk populations.

Key messages:

- Occupational exposure in pig farming is a significant risk factor for S. suis infections in humans.
- Integrative One Health approaches are essential for preventing S. suis infections in occupational settings.

Abstract citation ID: ckae144.1219
BELCOHORT: towards a population-based cohort for health research and policy support in Belgium

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Background: In the past decades much progress has been made in Belgium in the development and valorisation of population-based data collections which are directly or indirectly related to health. New surveys have been set up and the use of medico-administrative and environmental data for public health research gained momentum. However, no infrastructure is currently in place to link survey data with existing sources in a longitudinal perspective to address research questions directly relevant to health policy. BELCOHORT is a three-year pilot project aimed at developing a population based cohort enriched with these different data sources. The project is considered as a step towards a large population cohort in Belgium.

Methods: A first wave of participant recruitment was organized in February 2024 using the Belgian national register as a sampling frame, and 41,153 households were invited (targeted sample of 5000 individuals aged 18-69). A first baseline survey (online and paper) was organized and an annual follow-up is planned. Linkages procedures will be implemented with administrative data and geospatial data on air pollution and green space. The inclusion of data from physical examinations and biological samples will be explored.

Results: In the first recruitment wave the individual response rate was only 2.5%, leading to a sample of 1,947 participants. The sample showed an under-representation of women (45%), people aged 18-24 years (2%) and low educated people (21%). In total, 23% of participants opted to complete the first baseline questionnaire on paper. Stakeholder meetings have been started to implement the individual and geospatial linkages.

Conclusions: This project generate insights that will assist in methodological choices in the development of a large population cohort in Belgium. In the second recruitment lessons learned from the first data collection will be used to improve the response rate as well as the participation of under-represented groups.

Key messages:

- This study provides insights on how existing population-based data collections including administrative and environmental data can be valorized in setting up a population cohort.

- Recruitment strategies for a population cohort should be tested thoroughly and adapted in order to obtain a well-balanced sample composition.

Abstract citation ID: ckae144.1220
Born in Ethiopia

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Background: Goal 3 of the United Nation 2030 Agenda states that we want to ensure health and well-being for all. This is even more true for countries in the IV World. The aim of our study is to investigate the timing of childbirth in Ethiopia.

Methods: The stages of our ethnographic study include: choosing the study topic and location, participating in group life, collecting and analysing data. The field experience, led by a midwife, took place from September 2023 to October 2023 in Ethiopia, within the Saint Luke Catholic Hospital in Wolisso.

Results: The instruments that the midwives have at their disposal are few and obsolete: the most is Pinard's stethoscope. The mothers are all very young: the youngest woman was fourteen years old while the oldest woman was thirty-eight years old. As for parity, the fertility rate is around 4.6 live births per woman. Women's family members take care of them in all aspects of care. Pregnant and new mothers receive support from their attendants, an all-female network. Pregnancy monitoring is almost non-existent. There is no prenatal diagnosis. In 2022, St. Luke's hospital saw a 20% caesarean section rate, an increase from the previous two years. Poverty and the lack of government facilities that can support a problem child are two of the reasons why many of these children are abandoned. In terms of maternal and child health, mortality indicators are still too high for mothers and children. There are 353 mothers dying per 100,000 live births and 41 babies dying per 1,000 live births.

Conclusions: The biomedical model exported from the Western world, as shown for example by the increase in caesarean sections, has led to a slow but progressive hospitalisation of childbirth in the search for safety from maternal and neonatal mortality.

Key messages:

- Poverty, malnutrition, lack of sanitation and drinking water, as well as early pregnancies and high parity remain among the leading causes of mortality in Ethiopia.
- The biomedical model exported from the Western world has led to a slow but progressive hospitalisation of childbirth in the search for safety.

Abstract citation ID: ckae144.1221
Global health at local level: characterization of tropical diseases in northern Portugal, 2020-2024

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Background: The escalating global prevalence and geographic spread of tropical diseases pose significant global health risks worldwide, with local implications. In Portugal, these diseases require mandatory notification. Concerns were raised following the detection of Aedes albopictus mosquitoes in mainland Portugal in 2017, alongside a Dengue outbreak in Madeira in 2012. Despite Portugal being declared malaria-free, the detection of Anopheles mosquitoes also raises concerns. This study aims at characterizing notified cases of tropical diseases in two cities in Northern Portugal since 2020.

Methods: A retrospective study of Malaria, Dengue, Zika, and Chikungunya cases in the Maia & Valongo's Public Health Unit included data from the National Epidemiological Surveillance System covering January 2020 to April 2024. Descriptive analysis was conducted using SPSS IBM for iOS® v29. Results are presented as mean ± standard deviation for continuous variables and proportions for categorical ones.

Results: Five malaria cases were reported, predominantly affecting males (80%), with an average age of 34±16.96 years. Four were Portuguese and one Angolan. All cases were imported, mostly from Angola (80%). Etiological analysis revealed two cases of Plasmodium malariae and three of Plasmodium falciparum. All were hospitalized, no deaths. Four dengue cases were documented, 50% in males, averaged 33±24.73 years. Three were Portuguese and one Mozambican. One was hospitalized with no deaths. All cases were imported from Brazil, Cuba, Indonesia, and islands of Saint Martin/Saint-Barthélemy. No Zika or Chikungunya confirmed cases were identified during this period.

Conclusions: The increasing incidence of Dengue and Malaria underscores the critical connection between infectious diseases, vector ecology, and global health security. This study highlights the risk of imported Dengue and Malaria cases, emphasizing the imperative for surveillance and preventive actions to protect public health.

Key messages:

- Dengue and Malaria cases in Portugal underline the importance of international collaboration and robust strategies.
- Stepped-up surveillance is key to protecting vulnerable groups from imported infections.

Abstract citation ID: ckae144.1222
One Health literacy and governance of health leaders across three countries following the pandemic

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Background: To address health threats and promoting health of all, One Health is an important approach. To foster the implementation of One Health, a framework proposed by Blankart et al. (2024) postulates a reinforcing relationship between One Health literacy and governance after being triggered by an external event. We build on this model and aim to explore how the postulated mechanism differs among health policy and practice leaders across the UK, Germany, and Switzerland after the external triggering event of the COVID-19 pandemic.

Methods: We developed an online survey instrument for each of the 5 elements of the framework and conducted it in April 2024. We targeted mid- and end-career leaders and senior experts from the Sciana network that reported about their personal experiences and perceived changes (scale from -5 to + 5). We performed descriptive and inferential statistics to analyse the data. The survey was complemented by structured interviews to gather contextual information.

Results: Leaders and experts (N = 30, response rate: 30%) increased their One Health literacy (mean: 2.2), increasingly engaged with One Health principles (mean: 1.0), which resulted in more calls for optimized One Health governance (mean: 2.4). The interviewees reported that they adopted and implemented a more consistent One Health governance (mean: 2.6), which led to more familiarity with One Health principles (mean: 2.3). According to the results, the average effect on One Health literacy and Governance was stronger in Germany, followed by Switzerland and the UK.

Conclusions: We have demonstrated that triggering events such as the COVID-19 pandemic have led to improvements in One Health literacy and subsequently One Health governance. We therefore suggest that the postulated framework holds in practice and have showed that there are important differences in uptake between leaders in the three countries. Further research may build on these findings and develop more effective health policy.

Key messages:

- We have contributed to the understanding of how pandemics improve One Health literacy and subsequent One Health governance using the example through a survey of leaders in health policy and practice.
- Based on the understanding of triggering events' effect on One Health literacy and governance specific recommendations for the implementation of One Health in public health can be developed.

Abstract citation ID: ckae144.1223
Key competencies for global health research: systematic literature review and mapping

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Background: Despite a boom in global health programmes and trainings, there is a lack of clarity and standardisation about which competencies are essential for researchers in global health, who stem from diverse disciplines and backgrounds. The objective was to map key competencies for global health research and approaches to progressively develop them in education and training.

Methods: We performed a systematic review in English in PubMed/MEDLINE, Web of Science, and Psychinfo/EBCSO host of literature published since 1 January 2010. 1827 articles were screened in duplicate. Data was extracted from 84 publications about focus in global health, recommended competencies and educational approaches, with two researchers giving a relevancy rating. AI-assisted extraction was conducted on 40 high-relevance publications to garner further information, informing development and application of a coding framework to these articles.

Results: Emerging results point to eight main domains and numerous subdomains related to competencies seen as critical for global health research. In addition to traditionally emphasised cognitive competencies (e.g. methodological), the literature underlined the importance of critical analyse of how systems related to globalisation, political economy and structural injustice shape health at local level. Also highlighted was the need for more focus on affective and practical competencies for conducting global health research in alignment with equity principles, including through innovative pedagogical approaches.

Conclusions: Our review identifies competencies seen as essential for global health researchers, including skills to critically analyse geopolitical, colonial and structural drivers, as well as self-reflexivity, (cultural) humility and other key affective competencies. It also highlights, however, the significant diversity of perspectives, lack of consensus, and ongoing disconnect between principles and practice.

Key messages:

- Greater clarity and consensus is needed around the specific competencies required to work as a researcher in global health, taking account of diversity across disciplines, sectors and stages.
- Global health researchers require skills to critically analyse geopolitical, colonial and structural drivers, as well as self-reflexivity, (cultural) humility and other key affective competencies.

Abstract citation ID: ckae144.1224
Barriers to a sustainable living in Italy: results of a national survey

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Background: Sustainable living plays a crucial role in creating a fairer society, but various constraints prevent consumers from adopting sustainable behaviours. This study investigated the reasons for non-adoption of sustainable products or behaviours among the Italian population.

Methods: From January to June 2023, we surveyed the Italian population using a 40-question online survey that asked about knowledge, awareness, and attitudes toward sustainable behaviours and products. Participants were asked about the reasons why they did not engage in a certain behaviour or did not use a selected product. Descriptive statistics, t-test and chi-square tests were performed to assess association with participant characteristics.

Results: The 420 participants had a median age of 39 years (interquartile range: 32-56), 66% were female. The largest discrepancy between knowledge of sustainability impacts and implementation was in the personal care (92% knowledge, 31% implementation) and transportation (85% knowledge, 48% implementation) domains. In general, the main reasons for not using the surveyed products were practical complications in everyday life (25%), the difficulty of finding or producing them (23%) and their cost (13%). Specifically, practical complications (42%) were the main reason for not adopting sustainable behaviours in the transport domain. In the personal care domain, low confidence in product quality or ignorance of their existence accounted for only 26% of reasons for non-use, while supply problems, practical complications in everyday life and existence unawareness accounted for 61%.

Conclusions: Targeted measures are needed to address the reasons for non-use or adoption of sustainable products and behaviours. In this way, these actions will help to promote healthy living, protect our planet, support socio-economic development, and ensure global prosperity.

Key messages:

- A greater sustainability- implementation awareness gap was found in personal care and transportation domains.
- The main reasons for not implementing sustainable living were practical complications in daily life, supply difficulties and product cost.

Abstract citation ID: ckae144.1225
A Multidisciplinary One Health Approach to Addressing Unsanitary Conditions: The Case of Cascais

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Unsanitary conditions in domiciles often stem from complex social and health-related issues, involving the elderly and/or individuals with mental health problems. These situations typically lead to a decreased quality of life for those involved, directly and indirectly, and may pose a risk to public health depending on their magnitude. In Cascais municipality, identified cases of unsanitary conditions undergo a multidisciplinary analysis. It has been established a Local Technical Group for Domiciliary Unsanitary Situations, comprising various institutions such as local authorities, law enforcement agencies, civil protection, health and social security ministries, and the animal rescue center. This group operates under a One Health approach, encompassing human health, environmental health, and animal health. Interventions are determined by the working group, with the aim of promoting health and enhancing citizens' quality of life. Cases of unsanitary conditions reported are subsequently discussed within the technical group, which has regular meetings, and may organize joint assessment visits and appropriate actions. This social and environmental initiative responds to the growing need to address unsanitary and cluttered living conditions, which significantly impact individuals' physical, emotional, and social well-being. The objective is to restore housing conditions in homes by removing waste and unnecessary items, contributing to general individual well-being. While international studies suggest a correlation between unsanitary conditions and hoarding disorder, it's crucial to differentiate between distinct and independent situations caused by various physical, psychological, and cognitive processes. The establishment of a Local Technical Group for Domiciliary Unsanitary Situations exemplifies a proactive approach to addressing complex health and social challenges, emphasizing collaboration, and holistic intervention strategies, always with a One Health approach.

Key messages:

- Addressing unsanitary conditions is crucial for safeguarding public health, impacting physical, emotional, and social well-being.
- The establishment of a Local Technical Group for Domiciliary Unsanitary Situations, under a One Health framework, reflects a collaborative approach to addressing complex health and social challenges.

Abstract citation ID: ckae144.1226
Beneficial effect of honey from algae extract-fed bees on quality of life

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Background: Our team has been researching and developing special honeys from bees fed with syrups containing natural plant extracts for decades. Several pre-clinical studies have demonstrated that honey from bees fed with Chlorella algae extract contains a number of algal active ingredients with beneficial effects on the human body.

Methods: We conducted a prospective double-blind functional food study with 30 healthy volunteers with ethical approval. Based on strict inclusion and exclusion criteria, 30 gramms of honey has been eaten twice a day for 3 weeks under 150 ml of yoghurt. 15 people were fed honey from bees with special algae extract, while 15 concerned - as a control group - consumed acacia honey. Before and after the study, sleep quality was assessed by the SQS questionnaire, and quality of life by the SF-36, EORTC Q-C30 and EQ-5D tests.

Results: The specific algae extract contained honey improved the people's sleep quality, their EQRTC parameters, their appetite, their digestion, and it also significantly reduced pain ($p = 0.01$), boosted the patients cognitive function, and reduced both constipation and diarrhoea. Significant differences in SF-36 parameters: pain decreased (12.9±1.6vs 6.6±1.1; $p = 0.01$), physical function (21.2± 6.3vs 27.1±3.6; $p = 0.01$) and energy (11.2±2.7vs 13.9±1.4; $p = 0.01$) improved. No such changes occurred in control group.

Conclusions: Honey from bees fed with algae extract has a number of beneficial physiological effects on the human body, improving many parameters of quality of life.

Key messages:

- The consumption of honey from bees fed with algae extract improves sleep, reduces pain, and has a positive effect on digestive and gastrointestinal symptoms.
- Within public health, quality of life is an increasingly important issue and improving it with functional foods is an important area of research.

Abstract citation ID: ckae144.1227
What works in global health partnerships? Reflections on a Nigerian-German project collaboration

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Background: Global health partnerships for project implementation is a frequent way to address health challenges. Bringing stakeholders from different disciplines, professions, settings and countries together provides opportunity to look at health challenges from different perspectives, develop suitable ideas to tackle them and leverage diverse capacities.

Problem: In such diverse partnerships, cultural norms, practical realities and institutional practices create challenges for the development of good and equitable relationships.

Methods: In our project collaboration between the Nigerian Centre for Disease Control and Prevention and the German Robert Koch Institute on developing and implementing trainings in infection prevention and control, we demonstrated how a partnership can function. The collaboration followed a participatory approach and was informed by the following principles: - Plan, revise, adapt and implement all project activities as well as its contents participatorily; - A well-coordinated teamwork is key to facilitate operational performance; - Consider everyone as expert in its own domain of influence; - Constant and inclusive communication: maintaining transparency on all aspects and steps both in contents and organization and applying non-violent communication and active listening; - Provide space for reflection on roles and functions and for open discussion on needs and misunderstandings; - Appreciate team work as constantly evolving process of interaction and learning.

Results: We built a strong resilient team and could leverage team diversity to deliver on project objectives with exceptional quality, adaptability in a highly complex and frequently changing implementation setting.

Lessons: Working across cultures, disciplines, professions and countries means to develop a joint communication language and an understanding of the other. It is challenging and dynamic, requires additional space/time and attention, but offers personal growth and self-realization.

Key messages:

- Using a participatory approach in teams can leverage team diversity to deliver on project objectives and bring about a high professional and personal self-realization.
- There are concrete implementable ways of teamwork in international interdisciplinary global health collaborations that enhance quality of results in complex implementation settings.

Abstract citation ID: ckae144.1228
Antimicrobial resistance trends in Italian hospitals: insights from two point prevalence surveys

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Background: Antimicrobial resistance (AMR) presents a critical challenge to global healthcare systems, necessitating vigilant surveillance efforts. The European Centre for Disease Prevention and Control (ECDC) conducts point prevalence surveys (PPSs) to monitor AMR trends across European hospitals. This study focuses on comparing AMR patterns in Italian hospitals using data from two surveys: PPS2 (2016-2017) and PPS3 (2022-2023).

Methods: A total of 140 hospitals enrolling 28991 patients participated in PPS2, while 325 hospitals with 58506 patients contributed data to PPS3. Microbiological samples were collected and tested for antimicrobial susceptibility. Prevalence ratios (PR) with corresponding 95% confidence intervals (CI) were calculated to assess changes in resistance patterns between PPS2 and PPS3. Statistical significance was determined with p-value <0.05.

Results: Staphylococcus aureus showed a trend towards decreased oxacillin resistance, (PR: 0.77, 95% CI: 0.60 - 0.99). Enterococcus faecalis exhibited a non-significant decrease in glycopeptide resistance. Pseudomonas aeruginosa and Acinetobacter baumannii maintained stable carbapenem resistance between the two surveys. Escherichia coli and Klebsiella pneumoniae showed a decreasing trend in resistance to carbapenems and third-generation cephalosporins, but only Klebsiella pneumoniae was found to be significant (PR: 0.69, 95% CI: 0.55 - 0.88, p 0.004 and PR: 0.78, 95% CI: 0.66 - 0.94, p 0.01, respectively).

Conclusions: These findings underscore the importance of surveillance in monitoring AMR trends. Observed decreases, especially in Klebsiella pneumoniae, suggest potential improvements. However, the overall stability of resistance highlights the ongoing challenge of combating AMR. A multifaceted approach, including antimicrobial stewardship and One Health initiatives, is crucial to address this global health threat effectively.

Key messages:

- Surveillance efforts are crucial to understand antimicrobial resistance (AMR) trends, as demonstrated by comparing data from two surveys in Italian hospital.
- Results highlight the need for data-driven interventions, guiding future strategies within a One Health framework to address antimicrobial resistance comprehensively.

Abstract citation ID: ckae144.1229
A monitoring framework for reinforcing policies against antimicrobial resistance in Europe

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In an attempt to overcome barriers to the effective implementation of policies against antimicrobial resistance (AMR) in the EU Member States, Norway and Iceland, One Health national action plans (NAPs) need to show improvements in both their formulation and their implementation. Research conducted by Tetra Tech, funded by the EU4Health Programme, has identified shortcomings to One Health national policies across all countries, such as limited political focus and awareness of the challenges brought by AMR; lack of operational plans for delivering on the NAPs; and lack of harmonised indicators and inadequate information systems for monitoring the implementation of plans. On this last issue, subsequent reseach by Tetra Tech has supported the design and development of monitoring indicators for reinforcing the expected improvements of NAPs and the implementation of policies aimed at EU Member States in the 2023 "Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach". While drawing on existing data sources at EU and global level, the study has also worked with Member States representatives in identifying indicators for the monitoring framework and proposed new data collection activities at the national level.

Key messages:

- EU countries face common barriers to the effective implementation of One health policies against AMR, and need to reinforce their national action plans.
- Stepping up the fight against AMR in the EU requires a strong monitoring framework for following up on EU recommendations.

Abstract citation ID: ckae144.1230
One Health Perspectives on Food System Transformation: Insights from the InsectERA Agenda

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Background: One Health framework recognises the interconnectedness of human, animal, plant and environmental health. With this understanding, it becomes imperative to address challenges such as those posed by food systems through a One Health lens. Food systems pose significant public health challenges, particularly in terms of food safety and security. Pressures from factors such as population growth, changing consumption patterns and intensified production systems, particularly animal-based protein production, contribute to environmental pressures. In addition, environmental changes, including climate change, further threaten food safety and access to healthy food.

Methods: Through the InsectERA agenda, funded as part of the Recovery and Resilience Plan, stakeholders collaborated across sectors to explore the potential of insects as bioindustrial tools to address food system challenges. A structured, integrated approach combining health and sustainability considerations was matured and applied to pilot food products developed through this initiative. Recognising the potential health and sustainability impacts of these products, a comprehensive assessment was carried out.

Results: This study defined a structured, integrated approach to assessing the health and sustainability impacts of foods developed under the InsectERA agenda. Key steps included i) identifying critical issues and questions, ii) prioritising considerations, iii) defining methodologies, iv) collecting and analysing data, and v) integrating results for communication.

Conclusions: The study highlights the importance of integrated approaches in addressing food system transitions. Integrated approaches, guided by the One Health framework, play a critical role in informing policy decisions by providing policy makers with robust evidence. There is an urgent need for food system transformation based on decisions that holistically consider health and sustainability impacts, to ensure the protection of Public Health.

Key messages:

- Integrating health and sustainability into the transition of food systems, within the One Health framework, is crucial for identifying options that safeguard Public Health.
- A structured, integrated approach within a multi-stakeholder environment offers robust insights for policy decisions, advancing sustainable food systems.

Abstract citation ID: ckae144.1231

Curricular innovations to address inequalities in global health education

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Background: Global Health education (GHE) has expanded dramatically, with new degrees and expanded competencies in medical curricula. Yet, Global Health (GH) is also going through significant reckoning and debate around inequalities in the field. GH degrees are predominantly based in high-income countries and inaccessible to most global majority students. Some suggest GH education itself contributes to reproducing inequalities in GH. Thus, both educators and policy-makers require evidence and tools to support more representative and authentic educational experiences which can adequately equip our future graduates.

Objectives: To present educational innovations which gesture towards responding to the stark inequalities in Global/Public Health education. These include a unique project that experiments with disrupting current power dynamics through co-design and co-delivery of a curriculum on Syrian healthcare by colleagues with lived experience, and a student-staff partnership to integrate self-reflexivity and positionality (SRP) in curricula at Imperial College London (UK).

Results: Qualitative data shows that the Syrian Curriculum has resulted in enhanced student experience, being consistently cited as a highlight of the curriculum, whilst alsoenhancing inclusivity for many students. SRP supplemented this by providing students with tools to engage in open, respectful discussions and critically reflect on personal biases that impact class dynamics.

Conclusions: These projects provide tools for educators and policy-makers across European universities to address current challenges in GH education. Nonetheless, these innovations should principally be seen as tools to reflect and advocate for fundamental changes towards more representative structures in GH.

Key messages:

- Curriculum innovations offer key tools to address inequalities in GHE, enhancing student experience/inclusivity.
- Yet, these remain limited without fundamental change towards a more representative sector.

Abstract citation ID: ckae144.1232

Developing an infodemic management toolkit for immunization: An iterative consultation process

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Issue: An infodemic is an overwhelming amount of information, accurate and otherwise, that accompanies health emergencies such as outbreaks and other health crises. Infodemic management work is done by people from different positions and professions, with differing resources at their disposal, and applied to a range of health issues. An infodemic insights report can help identify questions, concerns, information voids and circulating mis- disinformation to help inform an emergency response. Health issue specific guidance can be useful for those who may have infodemic management as part of their regular work but want to identify infodemic insights and contextualize these insights in relation to other programme data.

Description: The WHO and UNICEF 'how to build an infodemic insights report in 6 steps' document provides general guidance. A more immunization specific document, with practical and specific tools in standalone short focus areas was developed to guide infodemic managers or those working on vaccine demand and acceptance, and by vaccination field workers. The toolkit is intended for vaccines across the life course, including for children, adolescents, pregnant people, adults, and people with pre-existing conditions or have other vulnerabilities.

Results: Rounds of iteration with experts both internal and external to WHO provided useful feedback, review and suggestions. The toolkit provides information targeted at different resource and capacity levels.

Lessons: The consultative process resulted in a toolkit informed by experts and those who are likely end-users of the document. The consultations sought to align the toolkit with immunization programme processes and with other tools and interventions for improving vaccine uptake. Having health issue specific guidance is a useful addition to the infodemic manager toolbox and tools such as these can be an important component of community resilience and health security initiatives.

Key messages:

- For immunization, infodemic management can support programme activities to build vaccine confidence and improve uptake, and manage vaccine-related events.
- Expert informed guidance on health topic specific areas can be a useful addition to the infodemic manager toolbox.

Abstract citation ID: ckae144.1233
Organisation of school environment on reopening schools amidst COVID-19: Barriers and facilitators

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Background: The reopening of schools during the COVID-19 pandemic has had a profound global impact, affecting millions of students, educators, and families worldwide. This organisation study, conducted in collaboration with professionals from Brazil, Mozambique, and Portugal, focuses on the organisation of school environments to ensure education safety and continuity, underscoring the global relevance of our findings.

Methods: A consortium of 12 countries developed a script for the semi-structured online interviews used in this study, which took place between March and December 2021. Focusing on the reorganisation of schools during lockdowns in the classroom, we interviewed 12 native Portuguese speakers involved in this process. We applied thematic analysis using NVivo v.22.0 to transcript interviews.

Results: Results revealed complexities in school reopening during the public health crisis. Key barriers were disparities between public and private schools and inadequate infrastructure. Facilitators included thorough preparation of staff, community engagement, and strong collaboration between the educational and health sectors, along with classroom and school space adaptations.

Conclusions: This study highlighted significant barriers and facilitating factors affecting school reopening during the pandemic. Challenges such as educational inequalities and infrastructure gaps were evident, while effective facilitation involved comprehensive planning and stakeholder engagement. These findings offer valuable insights for strategic planning and professional practice in ensuring safe and continuous education during pandemics.

Key messages:

- Global collaboration in this study spotlights the complex challenges and necessary strategies for safely reopening schools amid a pandemic.
- Research underscores the critical role of thorough preparation and community engagement in overcoming educational disparities during crises.

Abstract citation ID: ckae144.1234
Temporal Analysis of Sanitation and Water Development Indicators in Tunisia: 2012-2023

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Background: Access to sanitation and water resources is a cornerstone of the 'One Health' approach, which encompasses the holistic integration of human, animal and environmental health considerations. We aimed to elucidate the temporal trajectory of sanitation and water resource development in Tunisia across successive years.

Methods: Data from the Multiple Indicator Cluster Survey in Tunisia, a UNICEF-conducted repeated cross-sectional survey, was used to compare trends in access to improved water sources, utilization of improved sanitation facilities, and handwashing practices across 2012, 2018, and 2023.

Results: In 2023, we observed that 20.9% of households did not have access to drinking water on site, compared with 12.7% in 2018 ($p = 0.15$). The availability of drinking water in sufficient quantity was 69.8% in 2023 and 80.6% in 2018 ($p = 0.37$). In 2023, 78.1% of the population had access to an improved water source, compared with 86.3% in 2018 and 95.7% in 2012 ($p = 0.4$), 80% in urban areas and 73% in rural areas ($p = 0.57$). In 2023, 12.5% of the population consumed water from sources contaminated with Escherichia coli, compared with 20.5% in 2018 ($p = 0.16$). Disparities in Escherichia coli detection were observed between rural (21%) and urban (8.3%) areas ($p = 0.01$). In 2023, 92.1% of households had access to handwashing facilities equipped with soap and water, compared with 89.9% in 2018 and 91.5% in 2012 ($p = 0.98$). The breakdown between urban and rural areas was 95.1% and 86.4% respectively ($p = 0.51$).

Conclusions: Access to improved water sources, sanitation, and handwashing practices remains high over time, but regional disparities persist. Improved water quality directly reduces the transmission of waterborne pathogens, emphasizing the need to address regional disparities and socio-economic inequalities to promote public health nationwide.

Key messages:

- Challenges persist in tunisia regarding sanitation and access to water.
- Regional disparities threaten public health.

Abstract citation ID: ckae144.1235
Health literacy of pregnant women in Hungary

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Health literacy determines our state of health and through this our quality of life. The health behavior of women of reproductive age should be treated with priority, since the lifestyle of pregnant women shows a correlation with the occurrence of premature birth and intrauterine development, and also between fetal development and the occurrence of chronic diseases in adulthood. The aim of our research is to explore the factors influencing the health behavior of pregnant women, to analyze regional differences, and to identify the causes of regional differences and inequalities. During a prospective, cross-sectional study, the health behavior of pregnant women living in Hungary was assessed using a questionnaire. In the course of our research, we examined health literacy using two measuring instruments, the Chew questionnaire and The Newest Vital Sign test. A total of 2,000 questionnaires were distributed of which 1,655 evaluable questionnaires were returned, the willingness to answer was 75%. The most people considered their own health to be good or very good (59.7%). 59.5% of the respondents changed their health behavior because of their pregnancy, mainly for the sake of the health of the fetus. 18.1% of pregnant women most likely have insufficient, 15.0% probably limited and 48.1% most likely have adequate functional health literacy. Age, education, place of residence and financial situation of pregnant women show a significant correlation with health literacy. Our results confirmed that sociodemographic factors, especially age and education, significantly influence the health literacy, perceived health status and health behavior of pregnant women. The two health literacy questionnaires we use can be combined well with each other and complement each other. The results greatly contribute to the development of health literacy, and thus to the development of individual and community-level strategies for improving health behavior in the field of pregnant women's care.

Key messages:

- Health literacy of pregnant women in Hungary.
- Health literacy in health promotion.

Abstract citation ID: ckae144.1236
A canine onchocercosis report from the portuguese west region in 2024: implications for Public Health

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Issue/problem: Onchocerca lupi parasitosis, known as onchocercosis, affects dogs, sporadically cats and humans, posing a public health concern due to possible vectors in the environment. This neglected tropical disease(NTD), has no known human cases outside endemic areas. However, recent reports in non-endemic areas raise concerns about future implications. Climate change has increased the potential risk of disease vectors establishing themselves in previously unaffected areas.

Description of the problem: A case of canine onchocercosis in the West Region of Portugal, made the pet owner look for medical counselling. Primary health care providers contacted the Public Health Unit(PHU) for guidance and actions. There had been no previous reports in this region. In this case report, we explore the potential public health implications, through a one-health approach.

Results: History of the disease was collected, and travel history of the dog revealed that he had lived in the Algarve during 11 years with only a one-and-a-half-month travel to Italy in this period. Literature review revealed reports of previous cases of oncochercosis in the Iberian Peninsula. Collaboration between the PHU, research institutes, and veterinary authorities led to the assumption of probable transmission in the Algarve.

Lessons: Increased vector surveillance is needed, especially in areas associated with animal onchocercosis. Proactive measures reduce transmission risks, protecting both humans and animals. Tracking animal cases is vital for understanding regional environmental factors. PHU's must conduct thorough risk evaluations and maintain assertive risk communication strategies to address public and pet owner concerns effectively. Adopting a One Health approach improves the understanding of the disease dynamics and enables targeted interventions.

Key messages:

- NTD's transmitted by vectors pose a potential future challenge. This report underscores the need for a One Health approach, with collaborative multidisciplinary efforts to address these challenges.
- Furthermore, systematic interaction and reporting between human, animal, and environmental health authorities are crucial to ensure comprehensive surveillance and mitigation strategies.

Abstract citation ID: ckae144.1237
Food insecurity is associated with poor mental health and health risk behaviors in Czechia

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Background: Food insecurity (FI) is one of social determinants of health and a profound public health concern because it leads to malnutrition and hence poor health. COVID-19 impacted people disproportionately and exacerbated preexisting social and health inequalities. The aim of this study was to understand how socioeconomic and health conditions affected one's FI in Czechia during the pandemic using a representative panel of Czech adults from a longitudinal survey, Life During the Pandemic collected in October 2022 as part of a Czech longitudinal survey.

Methods: A study sample of 1,499 respondents was included in our multiple logistic regression models. Depressive symptoms and anxiety symptoms were assessed using validated questionnaires PHQ-2 and DAG-2.

Results: Approximately one third of the study sample (32.4%) reported being food insecure. In the fully-adjusted model, adults with depressive symptoms (OR 2.37, CI 1.49, 5.02), problems with sleeping (OR 2.20, CI 1.64, 2.96), smoking habit (OR 2.27, CI 1.68, 3.07), lower fruit and vegetable consumption (OR 1.50, CI 1.04, 2.17) had greater odds of experiencing FI. The lowest income group was associated with 6.2 times greater odds of reporting FI as compared to the high-income group (CI 3.96, 9.67). Lower education attainment also had higher odds of experiencing FI (OR 2.15, CI 1.40, 3.31). Anxiety was not a significant predictor for FI.

Conclusions: Our study highlights that food insecurity is associated with depressive symptoms, poor quality of sleep and lower consumption of fruit and vegetables among adults. Food insecurity was also evident among lower income and lower education attainment.

Funding source: This study was supported by The Charles University Grant Agency (GA UK).

Key messages:

- Our study suggests that adults with poor mental health and diet quality experience food insecurity.
- Given the established link between a balanced diet and mental well-being, interventions should encompass not only food security but also the quality of dietary intake.

Abstract citation ID: ckae144.1238
Impact of spilanthol supplementation with balance training on neuromuscular performance

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Background: Age-related reductions in muscle mass, muscle contraction power, force, and coordination contribute to an elevated risk of falls and associated consequences. Research suggests that the enhancement of neuromuscular function is attainable through a regimen of targeted exercises and the strategic inclusion of certain supplements like spilanthol. This randomized controlled trial investigated the effect of resistance exercise with either spilanthol plus coordination/ balance training (BAL) or BAL-alone on neuromuscular function (countermovement jump, multiple one-leg hopping, and sit-to-stand test).

Materials and methods: In the course of this study, a cohort of 68 healthy male participants, aged 40 to 50 years, completed a rigorous 6-month intervention, from the initial 75 recruits. In the spilanthol-plus-BAL group, participants engaged in 30 minutes of resistance exercise sessions four times a week, complemented by daily supplementation of 17.5 mg of spilanthol.

Results: The analysis of the results showed significant improvements in the spilanthol-plus-BAL group, particularly evident in the peak countermovement power ($p < 0.01$). The mean effect size for this parameter was a + 1.5[0.9 to 2.1] W/kg greater change in spilanthol-plus-BAL group than BAL-alone group after six months. Moreover, multiple one-leg hopping performance showed significant enhancement in the spilanthol-plus-BAL group post-intervention. The parameters of sit-to-stand duration (1.04 s vs. 1.95 s; $p = 0.03$) and average acceleration (1.54 g vs. 1.06 g; $p = 0.04$) both exhibited substantial improvements in the spilanthol-plus-BAL group compared to the BAL-alone group.

Conclusions: The findings of this investigation contribute empirical evidence supporting the proposition that spilanthol supplementation, when integrated with BAL training, can exert a more pronounced impact on select facets of neuromuscular function.

Key messages:

- Spilanthol supplementation with balance training can exert a pronounced impact on neuromuscular function.
- Spilanthol supplementation with balance training demonstrates potential in mitigating sarcopenia and other degenerative conditions.

DD. Poster display: Achieving universal health coverage: reducing health inequity

Abstract citation ID: ckae144.1239

The association between trajectories of structural disadvantage and mental wellbeing for Māori youth

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Background: Youth mental health is a major global concern with substantial inequities for Indigenous and other young people from minoritised ethnic groups. In New Zealand, Māori, the Indigenous people, experience poorer mental health than other young people, especially those living in high deprivation. Cultural connectedness is related to positive mental wellbeing, however, its potential to buffer against the harms of structural disadvantage for young Māori mental health has not been investigated.

Methods: We used data from 1224 Māori young people in the longitudinal Growing Up in New Zealand study. Structural disadvantage measures included material hardship, deprivation, employment, residential mobility. We conducted Latent Class Analysis and Social Sequence Analysis to identify clusters and longitudinal patterns of structural disadvantage. Cultural connectedness and mental wellbeing (depression & anxiety symptoms, quality of life) were measured at age 12. Linear regression analysis was used to determine associations between structural disadvantage, cultural connectedness and mental health.

Results: We identified 3 trajectories of structural disadvantage for Māori youth: 21% experienced persistent high structural disadvantage, 35% intermittent high structural disadvantage and 44% persistent relatively low structural disadvantage. Few differences in mental health were found between groups. Cultural connectedness was independently associated with positive mental wellbeing, yet there was mixed evidence it might buffer the impacts of structural disadvantage on mental health.

Conclusions: Our results highlight the importance of policies that uphold Indigenous rights to health and address structural disadvantage as a persistent threat to Indigenous wellbeing. Our findings call for holistic, early-life, family-centred strategies and to reduce barriers to accessing support. We highlight the need for policies that enable young people to flourish in their identity and culture.

Key messages:

- Many Māori young people experience pervasive structural disadvantage starting before they are born, persisting throughout childhood and adolescence which is an omnipresent threat to their wellbeing.
- Supporting cultural connectedness for Indigenous youth is important but cannot substitute for policies addressing structural disadvantages that contribute to health inequities.

Abstract citation ID: ckae144.1240

Inequalities in access to healthcare for older adults during COVID-19 pandemics in Lithuania

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Background: During COVID-19 pandemic, healthcare systems experienced unprecedented shock. Older adults were the most vulnerable group of Lithuanian society, facing distinctive health challenges and highest mortality rates. The aim of the study was to examine perceived inequalities and challenges in access to healthcare of Lithuanian population over 65 years old during COVID-19 pandemic.

Methods: Representative sample of Lithuanian population over 65 years old (1503 individuals) was involved in the anonymous questionnaire survey, performed in January, 2024.

Results: 22 % of respondents reported not using healthcare services during COVID-19 pandemics. Among them, 76% did not have any need for healthcare services, while 13.6% did not approach healthcare due to fear of getting infected by Covid-19, and the other 10.4% had various accessibility challenges. 15.8% reported frequent problems in registering with family doctors, and 20.0% - with the specialist appointment. There was a clear social gradient observed among those underserved: it was associated with educational level and place of residence. Those with lower education and living in smaller towns and rural areas reported more common healthcare accessibility problems. Higher education, income and better self-perceived health correlated with higher satisfaction with travel time reaching health care services and registering for the appointment ($p < 0.05$).

Conclusions: Health system resilience reflects the ability to continue service delivery in the face of extraordinary shocks. Limited health care accessibility and clear social gradient could increase vulnerability of older adults, which resulted in exceptionally high mortality rates during COVID-19 pandemics. Results of the survey will be used for further development of transformative capabilities of healthcare system, responding to public health disasters and protection of the vulnerable groups of the society.

Key messages:

- Limited health care accessibility and clear social gradient could increase vulnerability of older adults, which resulted in exceptionally high mortality rates during COVID-19 pandemics.
- Results of the survey will be used for further development of transformative capabilities of healthcare system, responding to public health disasters.

Abstract citation ID: ckae144.1241
Inequalities in prevalence rate of edentulism in the European Union between 1990 and 2019

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Background: Edentulism, characterized by tooth loss, serves as a global indicator of oral health burden, particularly affecting older and economically disadvantaged populations. We aimed to assess health inequalities in age-standardized prevalence rate (ASPR) of edentulism across 28 EU member states and EU as a whole between 1990 and 2019.

Methods: We retrieved ASPR, annual rate of change (ARC) and 95% uncertainty interval from the Global Burden of Disease (GBD) 2019 study. We calculated the ASPR ratio between 1990 and 2019 and country-paired ASPR for 2019. To estimate the inequalities between countries between 1990 and 2019, we used the Gini Coefficient (GC) and Slope Index of Inequality (SII).

Results: The EU ASPR for edentulism was 5912 (95% UI: 4751-7473) in 1990 while in 2019 it was 5048 (95% UI: 3970-6485). Sweden had the lowest ASPR in 1990, while Spain held this position in 2019. The highest rates in 1990 were observed in Poland and the Netherlands, with the Netherlands maintaining the highest ASPR in 2019. Spain exhibited the lowest ARC at -0.325 (95% UI: -0.477–0.193), while Sweden was the sole country with a positive value, at 0.034 (95% UI: -0.009-0.075). The ASPR ratio across all EU member states exhibited a range of values for males, from 1.00-2.16, and for females, from 1.00 to 1.87. The ASPR ratios ranged between 1.81 and 2.16 from 1990 to 2000. The GC was 0.097 (95% UI: 0.076-0.117) in 1990 and subsequently decreased-0.084 (95% UI: 0.063-0.105) by 2019. The SII exhibited a range from 0.062 (95% UI: 0.051-0.072) in 1990-0.046 (95% UI: 0.038-0.054) in 2019.

Conclusions: Inequalities in edentulism in the EU were similarly low when comparing 1990 and 2019. However, there was an alarming increase in inequalities between 2005 and 2010. This underscores the need for targeted interventions and policy measures-address oral health inequalities, considering socio-economic factors, healthcare policies, sex disparities, and public awareness initiatives.

Key messages:

- Edentulism is a significant public health concern within the EU for approximately 30 years.
- It has demonstrated comparable disparities in prevalence at both the beginning and end of the period, with a noticeable intensification in the interim.

Abstract citation ID: ckae144.1242
Nationwide prevalence and trends in high-risk drinking among adult men the disabled and non-disabled

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Background: Excessive drinking is an important public issue that causes various levels of physical, psychological, behavioral problems. Especially for the disabled, it matters in that it could lead to poor health and secondary health conditions.

Methods: This study analyzed high-risk drinking (HRD) behaviors over a 9-year period in adult South Korean men according to disability presence, severity, type. We linked national disability registration data with the National Health Insurance claims data. Age-standardized prevalence of HRD were analyzed for each year and the odds of current HRD were determined by multivariate logistic regression after adjusting for income level, residence, insurance type, Charlson comorbidity index.

Results: The age-standardized HRD prevalence of the mildly disabled was higher than that among the non-disabled. Among the mildly disabled and physically disabled, younger aged group showed higher prevalence of HRD than that of non-disabled. In multivariate logistic regression analysis, the mildly (aOR=1.26, 95% CI = 1.24-1.29), physically (aOR=1.31, 95% CI = 1.28-1.33), communication disabled (aOR=1.12, 95% CI = 1.07-1.17) had higher prevalence of HRD than the non-disabled.

Conclusions: The prevalence of HRD was higher among the young mildly disabled than the non-disabled, this was more evident in young men physically disabled, communication disabled. This may be a result of the physical and social limitations of severely disabled and should be interpreted with caution. Social activities should be supported, and health policies on alcohol consumption should be implemented to prevent secondary conditions and reduce health disparities. Funding: This research was supported by the National Research Foundation of Korea (NRF) grant funded by the Ministry of Education (No. 2022R1I1A3070074) and by a grant of Patient-Centered Clinical Research Coordinating Center (PACEN) funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HC23C0165).

Key messages:

- The prevalence of high-risk drinking was highest among the mild disabled, especially the mild, physical, communication disabled in younger aged men.
- Health policies and efforts to improve health disparities aimed at reducing alcohol consumption among people with disabilities are needed.

Abstract citation ID: ckae144.1243
Social patterning of health misinformation in two Eastern Mediterranean populations

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Background: Health misinformation, the spread of false or misleading information relevant to health, has been proposed as a major global public health thread by the WHO. We aimed to identify the major social determinants of health misinformation in the general Greek and Cypriot populations.

Methods: Following proportional quota sampling we recruited a nationwide sample of 585 adults from Greece and Cyprus between January 2022 and May 2023. A newly developed, culturally adopted questionnaire comprising 48 items, was used to assess misinformation on COVID-19 vaccines and the pandemic. Sociodemographic determinants of interest included gender, age, marital status, area of residence, educational attainment, and income. Multiple linear regression was used to determine associations between the aforementioned social factors and the two dimensions of health misinformation, applying mutual adjustment.

Results: Misinformation about both vaccination and the pandemic was higher in younger age groups (p-trend 0.026 and 0.007, respectively), among those separated, divorced, or widowed (mean difference, 95% CI compared to those single: 9.73, 0.45, 19.01), and among those living in semi-urban compared to urban areas (11.14, 1.32; 20.97 and 9.44, 1.96; 16.92, respectively). We also detected strong inverse socioeconomic gradients in health misinformation based on educational attainment and income (p-trend <0.001, for both).

Conclusions: Younger individuals, those living alone, those residing in semi-urban areas, and those with lower educational attainment and income are particularly prone to health misinformation. Our adjusted models show that this social phenomenon is not simply explained by differences in education, hence more complex, cultural, political, perceptual, and psychosocial dynamics might be in place. Addressing the social patterning of health misinformation would help manage the issue more effectively and also reduce health inequalities.

Key messages:

- Health misinformation is strongly socially patterned in two Eastern Mediterranean European populations.
- Targeting efforts to tackle health misinformation to those more vulnerable, would render such programmes more effective, also helping reduce social inequalities in health.

Abstract citation ID: ckae144.1244
Determinants of willingness to vaccinate against HPV among adults: an Italian cross-sectional study

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Background: In Italy, heterosexual males over the age of 18 do not participate in the free-of-charge HPV vaccine offer, nor do women over the age of 26, with regional differences; however, they can vaccinate for a fee. This survey aims to assess the vaccination readiness of the 18-40 year old population group, their perceived need with respect to the vaccine, and the determinants of the vaccination choice.

Methods: A questionnaire-based cross-sectional study targeting the general population in the 18-40 age group has been ongoing since March 2024. Recruitment occurs through social media and flyers. Demographic characteristics, social determinants, deprivation index by area via HAZ (health action zone) method (SR: -15;25), risk factors, main barriers to vaccination are assessed. Our main outcome is HPV vaccination willingness. People already vaccinated were excluded from the analysis. Descriptive and logistic regression analyses were performed with Jamovi.

Results: Our preliminary results included 159 individuals of whom 57.2% would like to receive HPV vaccine. The main characteristics of the sample were: median age 30 years (IQR:26.5;34), 47.2% female gender, median deprivation index 3.7 (IQR:-0.2;7.1), 75% working, 11.9% from the LGBTQ+ community. Regarding barriers, 31.9% rated fatigue in accessing the vaccine as significant, 10.4% feared a risk in receiving the vaccine. Among the people who did not want to vaccinate or did not know, 75% would do so by paying less than the normal amount, 21.6% if free, and 3.4% would not vaccinate anyway. Vaccination willingness was positively associated with female gender (OR:3.1; $p = 0.026$) and belonging to the LGBTQ+ community (OR:10.0; p:0.050) and negatively associated with working status (OR:0.19; $p = 0.013$).

Conclusions: Socioeconomic barriers appeared to play a significant role in the choice to vaccinate. Policies to reduce economic barriers could increase vaccination in an uncovered but still potentially sexually active population.

Key messages:

- Coverage of HPV vaccine is not yet at optimal thresholds, yet people excluded from free vaccination programs could benefit from vaccination incentive policies.
- Vaccination intention among heterosexual men is significantly lower than among women in the same age group, a symptom that there would still be room for awareness-raising interventions on the issue.

Abstract citation ID: ckae144.1245
Implementing patient navigation for cancer prevention among individuals with mentally ill-health

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Issue: In Europe, over 80 million people experience mental ill-health and there are 4 million new cancer diagnoses each year. Individuals experiencing mental ill-health exhibit higher rates of cancer morbidity and mortality, with this excess attributed to risky health behaviors and obstacles encountered when accessing often fragmented healthcare systems.

Description of the problem: The aim of Co-CAPTAIN is the pilot implementation and evaluation of the Patient Navigation Model (PNM) for the improvement of primary cancer prevention in individuals with mental ill-health, adapted through participatory co-design in the European context. The project will adopt a cohort-based study design, commencing data collection at baseline and succeeded by three follow-ups (6 weeks, 9 months, 18 months). It will utilize a mixed-methods approach, combining quantitative and qualitative methodologies to assess diverse outcomes of PNM, facilitating both exploratory and confirmatory research. Qualitative data will be obtained through semi-structured interviews, while quantitative data will be collected using validated questionnaires and items developed ad hoc. The project will involve four pilot sites in Europe (Austria, Greece, Poland and Spain), where the PNM will be adapted to the specificities of national healthcare and support systems. The implementation phase is expected to begin in June 2024.

Results: During implementation, gathering both quantitative and qualitative data will offer valuable insights into feasibility and effectiveness, establishing a baseline for reshaping health and social care policies for individuals with mental ill-health across Europe.

Lessons: Co-CAPTAIN project aims to reduce health disparities for individuals with mental ill-health by improving overall health and reducing cancer burdens, leading to cost reductions in European health and social care systems.

Key messages:

- The project aims to deliver an innovative solution based on the PNM, to address health disparities among individuals with mental ill-health by reducing cancer burden.
- Combination of qualitative and quantitative methodologies to assess diverse outcomes.

Abstract citation ID: ckae144.1246
Closing the gap: introducing the EQUALS MAP framework for equity-focused evidence synthesis

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Background: Equity-focused analysis is vital to understanding how interventions affect disadvantaged groups and prevent widening inequalities via intervention-generated inequalities. We reviewed PROGRESS-Plus usage - a commonly used framework in equity-focused reviews and proposed a novel framework.

Methods: First, we re-analysed articles from the EQUALISE study, a review of interventions that increase or decrease inequalities in general practice, to explore the various domains of disadvantage examined in the included studies. We then compared these domains of disadvantage with the existing PROGRESS-Plus framework. Finally, we propose a new framework to support equity-focused evidence synthesis.

Results: From the 325 studies included, the PROGRESS-Plus dimensions most assessed were sex(52%), ethnicity/race(49%), and age(44%). The PROGRESS-Plus framework missed context-specific groups, those with multiple intersecting disadvantage, and people who experience disability. Our new framework EQUALS MAP includes: Ethnicity (and culture and race); Qualifications (and other socioeconomic factors of household or individual); Underprivileged areas; Age; Lesbian, gay and other sexual identities; Sex and gender; Multiple disadvantages; Additional groups experiencing significant disadvantage; and Physical and mental disability.

Conclusions: EQUALS MAP encapsulates the key dimensions of health inequities whilst for allowing context-specific flexibility. Examining the effectiveness of policy and practice interventions by disadvantaged groups is paramount to prioritise actions.

Key messages:

- PROGRESS-Plus - a commonly used framework for equity-focuses evidence synthesis - misses context-specific groups, those with multiple intersecting disadvantage, and people who experience disability.
- EQUALS MAP is a novel framework which encapsulates the key dimensions of health inequalities whilst allowing for context-specific flexibility.

Abstract citation ID: ckae144.1247
Post-operative Mortality Trends for Complicated Appendicitis: Adults with and without Disabilities

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Background: Even for the same complicated appendicitis, the prognosis may vary if appropriate post-operative care and follow-up are not provided. We aimed to investigate the 10-year trend of complicated appendicitis mortality among disabilities and non-disabilities peoples in Korea, recognizing potential disparities in post-surgical outcomes and the importance of adequate post-operative care.

Methods: Patients with complicated appendicitis were classified by severity using DRG codes. Causes of death were categorized into infectious, respiratory, cardiovascular, and digestive diseases using ICD-10 data. Age-adjusted mortality rates were calculated annually from 2008 to 2017 based on disability presence, severity, and type. Factors associated complicated appendicitis mortality were analyzed using multivariate logistic regression models.

Results: The mortality of complicated appendicitis was 10.2 times (40.8% vs. 413.9%) higher in people with disabilities, especially those with severe disabilities. This difference was more evident in patients with a severe disability (aOR=2.12, 95% CI:1.58-2.86), intellectual or psychological disability (aOR=2.95, 95% CI:1.49-5.85) and internal organ problems (aOR=2.05, 95% CI:1.28-3.28).

Conclusions: Our findings suggest that insufficient post-operative care among disabled peoples, especially those with severe disabilities, internal organ problems, and intellectual or psychological disabilities, may impact outcomes. This is exacerbated by poor healthcare facilities and limited disability awareness among healthcare workers. Additionally, further research is required to uncover unexplained mortality causes. Funding: This research was supported by the National Research Foundation of Korea (NRF) grant funded by the Ministry of Education (No. 2022R1I1A3070074) and by a grant of Patient-Centered Clinical Research Coordinating Center (PACEN) funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HC23C0165).

Key messages:

- Complicated appendicitis mortality rates show a stark 10.2-fold disparity between people with and without disabilities.
- Severe disabilities, intellectual or psychological disabilities, and internal organ problems heighten the risk, emphasizing the importance of disability-inclusive healthcare practices.

Abstract citation ID: ckae144.1248
Cancer prevention in people experiencing homelessness: feasibility of the Health Navigator Model

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Background: The Health Navigator Model (HNM) is a newly developed skill-mixed model that may improve access to cancer prevention services for over 895,000 People who are currently Experiencing Homelessness (PEH) in Europe. The aim of this study was to assess the feasibility and implementation of the model in European settings.

Methods: A co-designed pilot implementation study was undertaken in Austria, Spain, Greece and the United Kingdom. A total of 20 trained health navigators were appointed at support centres for PEH and facilitated PEH's access to cancer prevention activities based on a comprehensive and tailored needs assessment. The study duration was 19 months, with two follow-ups. Feasibility data (recruitment/retention/participation rates, barriers, facilitators) were monitored throughout the study.

Results: More than 1,981 PEH were informed about the study and 652 of them participated. Most participants were male (64%), with low or no income (42%) and had previously experienced homelessness (51.7%). The mean age of participants was 47.4 years old. Overall, 69% of participants completed the first, and 42.5% completed the second follow-up. Main dropout reasons were loss of contact, loss of interest or having other priorities. Participants undertook a range of cancer prevention activities, including education (n = 494), workshops (n = 280), health consultations (n = 251), referrals for specialist care (n = 212) and cancer screening tests (n = 169). Difficulties in accessing the healthcare system, de-prioritising cancer and PEH's complex needs were identified as the main barriers. Building trusting relationships with PEH, increasing cancer awareness and coordinating social and health services were identified as the main facilitators.

Conclusions: Implementing the Health Navigator Model was a feasible and dynamic process leading to improved equity and inclusion of people experiencing homelessness in cancer preventive services.

Key messages:

- The Health Navigator Model is a feasible model to enhance cancer prevention among people experiencing homelessness following a person-centred, destigmatising approach.
- Effective liaison between health and social services under the Health Navigator Model plays a critical role in facilitating access to cancer preventive care among people experiencing homelessness.

Abstract citation ID: ckae144.1249
The Welsh Health Equity Solutions Platform – a mechanism for health equity solutions

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Health inequities are a longstanding issue in Wales, as they are across the globe. They disproportionately affect the health and wellbeing outcomes of disadvantaged groups, restricting opportunities to live full and prosperous lives. Post COVID-19 new groups are emerging with disproportionately higher risk of poor health and premature death and disease, especially those with unmet needs and vulnerabilities, with the rising cost of living amplifying health inequities. Despite their prevalence, health inequities are avoidable. Efforts to reduce health inequities require action on all the social determinants of health across the life course. Improved understanding of the key drivers of health gaps is needed to address the problem and provide support for solutions-driven action to break down the barriers to health equity. The Welsh Health Equity Solutions Platform (WHESP) launched on 22nd June 2023, a collaboration between Public Health Wales, Welsh Government and WHO European Office for Investment in Health and Development. The WHESP is an innovative digital tool developed around the WHO Health Equity Status Report initiative framework of the 'five essential conditions' for healthy, prosperous lives for all. It is a mechanism for health equity solutions and aims to inform and facilitate policy and decision making to improve population health and address the increasing health gap through an online gateway to data, health economics, policies, and innovative health equity tools. Emerging evidence is highlighted to identify solutions for achieving healthy equity, which informs evidence-based decision making to reduce the health gap, improve overall population health and wellbeing, and achieve inclusive and sustainable economic growth and prosperity for all. Collating and sharing health equity solutions, evidence, data and best practice both across Wales and globally supports equitable, long-term action to improve the health and wellbeing of the population.

Key messages:

- Highlighting health equity solutions informs best practice on tackling health inequalities.
- WHESP provides extensive evidence to facilitate cross-sectoral action and policy change.

Abstract citation ID: ckae144.1250
Cancer Prevention in People Experiencing Mental Ill-Health: A co-designed Patient Navigation Concept

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Introduction: People experiencing mental ill-health have greater disparities in cancer specific morbidity and mortality. Factors influencing cancer prevention include increased risk behaviours and frequent encounters with barriers to health care utilization. The Patient Navigation Model (PNM) has been proven to reduce barriers in accessing cancer preventive care in vulnerable populations. To facilitate successful implementation, the conceptual features of the PNM were co-designed with patients and other relevant stakeholders.

Methods: Twelve focus groups were conducted in January 2024 at four pilot sites in Austria, Greece, Poland, and Spain. Iterative focus group discussions were carried out following key considerations for the PNM as outlined by DeGroff et al., audio recorded and transcribed verbatim. Transcripts were analysed deductively using a directed content analysis while allowing for potential inductive emergence of codes and topics. A total of 50 participants attended, representing five groups (individuals with mental ill-health, care givers, care team members, representatives of mental health organizations, and representatives of service managers).

Results: The co-design focus groups allowed for the PNM to be contextually adapted to each pilot site, but similarities in the approach emerged within the following four themes: 1) the requirement for a person-centred approach, 2) consideration of both person-specific and context-specific needs, 3) flexibility and

competencies of navigators and 4) variation of navigation services (e.g., improving health literacy, promoting a healthy lifestyle, and providing practical support).

Conclusions: Participatory approaches in co-designing interventions allow for context specific development of interventions to meet the requirements of people with complex needs. Co-designing the PNM is part of activities of the CO-CAPTAIN project funded by the European Union's Horizon Europe Programme (GA 101104784).

Key messages:

- The Patient Navigation Model for Primary Cancer Prevention is a tailored intervention aiming to meet the needs of individuals experiencing mental ill-health.
- The conceptual features of the Patient Navigation Model for Primary Cancer Prevention were co-designed with patients and other relevant stakeholders.

Abstract citation ID: ckae144.1251
Quality of life in people with multiple sclerosis vs general population: differences increase by age

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Background: To enhance health care for chronically ill people, it is crucial to understand the impact of their disease on health-related quality of life (HRQoL). More than 240,000 people in Germany live with multiple sclerosis (PwMS), the most common immune-mediated neurodegenerative disease of the central nervous system. Little is known about HRQoL in PwMS in comparison to the general population and by subgroups.

Methods: In 2021, 6,928 statutorily-insured PwMS aged ≥18 years and living in the federal state of Lower Saxony, Germany, were invited to take part in an online survey. The German EQ-5D-5L value set was used to analyse HRQoL by index values. Descriptive subgroup analyses were conducted (age, sex) and compared to a general German reference population (Grochtdreis et al. 2019, DOI: 10.1007/s10198-019-01054-1). Mann-Whitney-U- or Kruskal-Wallis-tests were performed as appropriate.

Results: Of 1,935 respondents (response rate 27.9%), 1,916 PwMS were included in the current preliminary complete case analysis. HRQoL is reduced in PwMS compared to the general population: Mean (M) 0.67 vs. M 0.88, respectively. While no significant differences by sex were found in PwMS (male: M 0.66 vs. female: M 0.68, $p = 0.1$), HRQoL decreased with increasing age ($p < 0.001$). The reduction in HRQoL is more pronounced in PwMS than in the general population (difference between means 0.53 in 18-24 years old to ≥ 75 years old PwMS vs. 0.14 in the reference population, respectively).

Conclusions: PwMS report an overall lower level of HRQoL compared to the general population. Increasing age correlates with a substantial decrease of HRQoL in PwMS. Targeted research is needed to improve HRQoL of this vulnerable population.

Key messages:

- The decline in HRQoL with increasing age is more pronounced in PwMS than in the general population in Germany.
- Further research should focus particularly on the extent to which MS-related factors are solely attributable for the considerable decline of HRQoL in PwMS.

Abstract citation ID: ckae144.1252
Factor Influencing Unmet Healthcare Needs among the disabled

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Background: The unmet Healthcare needs (UHNs) of the disabled are not only detrimental to their quality of life but also can lead to serious health outcome including death. A variety of factors including socioeconomic, personal, environmental factors affect UHNs for the disabled.

Methods: We analyzed the UHNs status and influencing factors among 4,326 adult the disabled using Korea disability Life Data. Chi-square analysis was conducted to identify differences in UHNs according to characteristics of general, disability, environmental of the disabled. Logistic regression analysis was conducted to determine factors affecting UHNs.

Results: Those with low educational level (aOR=1.23, 95% CI = 1.02-1.48), those enrolled in private insurance (aOR=1.23, 95% CI = 1.02-1.50), those need help with daily living (aOR=1.30, 95% CI = 1.06-1.59), those who rarely go out (aOR=1.57, 95% CI = 1.27-1.92), those who use taxis (aOR=1.41, 95% CI = 1.05-1.89) or call taxi for the disabled when going to the hospital (aOR=1.37, 95% CI = 1.01-1.88), the communication disabled (aOR=1.30, 95% CI = 1.03-1.65), those with poor subjective health status (aOR=1.25, 95% CI = 1.04-1.49), those felt the explanation of treatment results was insufficient (aOR=4.04, 95% CI = 1.37-11.93), and those dissatisfied with healthcare services (aOR=3.52, 95% CI = 2.74-4.51) were more likely to experience UHNs.

Conclusions: Effective healthcare service provision for the disabled requires not only financial assistance but also social support, along with education for healthcare staff, policies with the characteristics of disabilities. Funding: This research was supported by a grant of Patient-Centered Clinical Research Coordinating Center (PACEN) funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HC23C0165) and by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT) (No. RS-2024-00394642)

Key messages:

- The disabled need not only financial support when using healthcare services, but also support from society, such as accompanying them to the hospital and providing transportation.
- Education for healthcare staff who communicate with the disabled and provision policy to provide appropriate healthcare services according to the characteristics of disabilities are needed.

Abstract citation ID: ckae144.1253
Equity of continuous glucose monitoring in young people with type 1 diabetes: a systematic review

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Background: Socioeconomic (SES) and ethnic inequalities in type 1 diabetes (T1D) outcomes are widespread. There is concern that unequal access to technologies, such as continuous glucose monitoring (CGM), may increase disparities. This systematic review summarises the evidence for inequalities in access to CGM for children and young people (CYP) and outcomes for CGM users.

Methods: MEDLINE, Embase, and Web of Science were searched for observational studies published between January 2020 and July 2023 which report CGM use stratified by any PROGRESS-plus criteria for T1D patients under 26. Reports based in low- or middle-income countries or ≤ 500 participants were excluded. Primary outcomes were the proportion of patients using CGM and HbA1c of CGM users. Quality assessment was performed using the Newcastle-Ottawa Scale. Unadjusted odds ratios were calculated from extracted data, though heterogeneity precluded meta-analysis. The protocol was pre-registered with PROSPERO (CRD42023438139).

Results: Of the 3,369 unique studies identified, 27 met inclusion criteria. We found decreased CGM use and higher discontinuation for low SES, low education, publicly insured, and minority ethnic, especially black, CYP. These associations were generally robust to adjustment for other sociodemographic variables, suggesting an independent effect. Lower SES inequalities were seen in countries where CGM is reimbursed. Although low SES and minority ethnicity were generally associated with poorer outcomes, there was no significant association between domains of disadvantage and higher HbA1c for CGM users, excepting parental education.

Conclusions: There are significant SES, ethnic, and education inequalities in CGM use for CYP with T1D, particularly when reimbursement is limited. This is contributing to outcome inequalities. However, evidence suggests CYP benefit equally from CGM use, irrespective of ethnicity and SES. Increasing CGM funding and use is likely to reduce outcome inequalities.

Key messages:

- There are significant SES, ethnic, and education inequalities in continuous glucose monitoring use for young people with T1D. Inequalities are more marked when technology is not reimbursed.
- Increasing access to CGM may reduce outcome inequalities, as evidence suggests that young people benefit equally from CGM use, regardless of ethnicity or SES.

Abstract citation ID: ckae144.1254
Welfare regimes and socioeconomic inequalities in edentulism: A multilevel analysis of 40 countries

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Aim: To evaluate the association between welfare regimes with edentulism and to investigate if it modifies the magnitude of socioeconomic inequalities in edentulism.

Methods: We analysed data from 40 high-, middle- and low-income countries collected between 2007 and 2018, encompassing 117397 individuals 20 years or older. The main outcome was edentulism and welfare regimes were the main exposure and effect modifier. Individual level variables were sex, age and quintiles of the wealth score. Multilevel logistic regression was used to estimate the odds of being edentulous and cross-level interaction terms between individual wealth and country factors were tested.

Findings: Individuals at the lowest wealth quintile had a consistently higher prevalence of edentulism. The highest age-sex standardised prevalence of edentulism was found in Eastern European countries (9.9%) followed by Informal Security (9.4%), while the lowest was among the Insecurity regime (1.4%) followed by the Social Democratic regime (4.7%). Liberal countries presented the highest magnitude of absolute and relative inequalities, where the lowest quintile had OR = 16.7 (95%CI: 10.5-26.5) times more chances of being edentulous and 14.4 percentage points higher prevalence. Low-income countries in the Insecurity Regime in social and labour market presented the lowest level of inequalities. Among HIC and upper-middle income countries, Social Democratic regime had the lowest absolute inequalities (4.0 percentage points difference between highest and lowest quintiles) and the Informal Security regime had the lowest relative differences between the highest and lowest quintiles (OR = 3.21, 95%CI: 2.83-3.63).

Interpretation: Our findings suggest that policies in some welfare regimes might improve oral health while reducing inequalities. High and upper-middle-income countries presented a high level of edentulism and inequalities.

Key messages:

- Larger socioeconomic inequalities in edentulism were found in high-income countries with liberal policies.
- A possible benefit of welfare policies on prevalence and inequalities in edentulism may be only evident among industrialised countries.

Abstract citation ID: ckae144.1255
Lesson learned from a co-designed vaccination initiative with undocumented people in the Netherlands

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Issue/ problem: ‘The coronavirus does not take document status into account’. The COVID-19 pandemic highlighted the importance of equal healthcare access for all. Yet, undocumented people face numerous personal and practical barriers in accessing health. Ensuring the protection of the most vulnerable is a global concern.

Description of the problem: In 2021, a regional initiative aimed to remove barriers and create a trusted environment for undocumented people to receive vaccinations. This collaborative effort included public health departments, NGO’s, community groups, (self) organized migrant organizations, GP’s and embassies. Regular meetings identified the population’s needs. A medical doctor was made available 24/7 to address questions and concerns. Actions were undertaken to build trust, foster collaborations between health authorities and communities and to improve vaccine service access and design.

Results: Working in partnership fostered trusted, multi-sectorial relationships, resulting in a vaccination initiative that met the diverse needs of the undocumented people. Widespread community-driven outreach through flyers and social media reached those who normally are not reached. Supported by over 40 volunteers, three vaccination events were organized in which 693 doses were administered. All parties made their contribution, e.g. with different migrant communities providing hot meals. The initiative began at the grassroots level in the communities and was then executed in partnership with the involved parties, making it highly successful.

Lessons: Inclusive engagement, addressing concerns and sharing clear information not only supports trusted relationships but also strengthens social cohesion. Collaborating directly with the communities ensured the initiative was tailored to their needs, thereby lowering the barriers for accessing healthcare. Achieving this success required a foundation of trust, mutual respect and a collective commitment from all involved.

Key messages:

- Codesigning vaccination initiatives with the communities is essential for success.
- Trusted partnerships, community involvement and mutual commitment were key elements for lowering barriers to accessing health.

Abstract citation ID: ckae144.1256
The Role of Faith in Medical Decision-Making

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Background: Ultra-Orthodox Israeli Jews face complex decisions when their doctors' instructions contradict their rabbis' advice. This study examines how their belief system affects their trust and decision-making in such situations, using socio-economic club theory and Gilligan's listening guide.

Methods: Excerpts from 16 focus groups with 128 ultra-Orthodox Jews were analyzed to understand their perspectives on the relationship between doctors and rabbis. The socio-economic approach of Berman's club theory was applied to explain their behavior, and Gilligan's listening guide was used to analyze the focus group results.

Results: The strict behaviors in the relationships between doctors, rabbis, and patients function as social capital, raising the status of ultra-Orthodox Jews as members of an exclusive club. They balance critical health decisions with the social demand to obey religious leaders. However, listening to different voices ('I,' 'we,' and 'they') provides nuanced insights into their decisions, revealing dynamic changes in the community's perceptions of the doctor-rabbi relationship and varying perspectives within the heterogeneous ultra-Orthodox community.

Conclusions: Combining Berman's theory with Gilligan's listening guide is an effective method for conducting in-depth qualitative research on sensitive issues with religiously strict groups. Understanding the belief systems underlying healthcare decisions is essential for providing culturally sensitive medical care to religious communities and training medical staff serving these communities.

Key messages:

- Ultra-Orthodox Jews balance complex health decisions with social demands, revealing nuanced perspectives through strict doctor-rabbi relationships.
- Combining theories and qualitative methods effectively studies sensitive issues in religious groups, informing culturally sensitive healthcare.

Abstract citation ID: ckae144.1257
The role of sociodemographic factors on herpes zoster vaccine uptake among hard-to-reach populations

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Background: The anti-Herpes Zoster (HZ) vaccination program was expanded with the adjuvated recombinant vaccine (HZR) in the Lazio Region, Italy, in 2022, restricting its use only to certain categories at risk due to pathological conditions, such as dialysis patients or immunocompromised individuals. This study focuses on the role of clinical and socio-demographic factors on HZR vaccine uptake within the fragile resident population of the Local Health Authority Rome 2 (ASL RM2).

Methods: This population-based, retrospective cohort study leveraged data from various registries and databases. The study population comprised 835,779 individuals aged $\geq$18 years who were both RM2 residents and registered with an RM2 general practitioner (GP). Among these, 143,242 individuals with at least one chronic condition were assessed for vaccination uptake using a multivariate logistic model, exploring associations with gender, age, nationality, marital status, household size, and level of deprivation.

Results: At the conclusion of the study period, a small fraction (1.5%) of the fragile subjects had received at least one dose of the HZR vaccine, and a majority (78%) completed the vaccination course of two doses. The analysis indicated that vaccine adherence was significantly higher in males ($OR = 1.15$) and individuals aged $65+$ ($OR = 1.13$) while lower among residents in areas of medium ($OR = 0.61$) and high deprivation ($OR = 0.44$) and with specific living arrangements - widowed people living alone ($OR = 0.66$) and families $\geq$ 6 people ($OR = 0.63$).

Conclusions: The ASL RM2 vaccination strategy for hard-to-reach individuals includes an integrated approach, with the engagement of local healthcare facilities and hospitals. Despite these efforts, lower adherence in socioeconomically disadvantaged fragile patients suggests a pressing need for targeted communication strategies and interventions to ensure equitable access to the HZ vaccine, as these groups are more vulnerable to developing chronic diseases.

Key messages:

- Socio-demographic factors significantly influence Herpes Zoster vaccine uptake in hard-to-reach populations, with lower adherence in socially deprived groups.
- Tailored, equity-driven approaches are essential for enhancing vaccine coverage among hard-to-reach fragile individuals, mitigating the higher disease risks in these communities.

Abstract citation ID: ckae144.1258
Children with disabilities and inclusive education in general schools: pricipals' attitudes

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Background: As inclusive education is being implemented nationwide in Lithuania, various attitudes towards education of children with disabilities in general schools are observed. We aimed to assess the attitudes of heads of general schools towards the provision of education to children with disabilities in general education schools of Lithuania.

Methods: Heads of all schools in the Lithuanian capital and its surrounding municipalities implementing general education programmes were invited to take part in this study. 115 persons agreed to participate and completed the questionnaire in spring of 2024. The distribution of the respondents by their answers to the questions about the attitudes towards the provision of inclusive education was compared according to gender, age, education level, work experience, school location (municipality), language of education, type of school, subordination, number of pupils, teachers, teaching assistants and pupils with disabilities.

Results: The most frequently indicated barriers for inclusive education provision were the lack of specialists, compensatory measures, methodological tools, adaptation of the physical environment, and high number of pupils (87.8%, 84.3%, 78.8% and 76.6% respectively). Attitudes of the respondents were similar in most of the cases when compared according to socio-demographic factors (p more than 0.05). Negative attitudes towards the possibilities for provision of inclusive education were more common among respondents from schools with fewer pupils and higher relative number of teachers, positive attitudes - among those from schools located in municipalities with lower number of residents and schools with more teaching assistants (p less than 0.05).

Conclusions: While attitudes of heads of general schools towards the provision of inclusive education for children with disabilities are similar in most of the cases, negative attitudes are more common among those from schools with fewer pupils and more teachers.

Key messages:

- While attitudes of heads of general schools towards the inclusive education are similar in most of the cases, negative attitudes are more common among those from smaller schools.
- Higher number of teaching assistants and smaller municipalities were associated with positive attitudes towards inclusive education of children with disabilies in general schools.

Abstract citation ID: ckae144.1259
Deafness and Inclusion: Perceived Communicative Barriers in the Area of Rehabilitation in Italy

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Introduction: Deafness can create a communication deficit/barrier between the Deaf or Hard of Hearing patient and the Healthcare Workers (HWs), with negative outcomes for diagnostic and therapeutic success. As underlined by the COVID-19 pandemic, there is a need to train HWs in effective communication strategies in order to avoid marginalising or excluding the Deaf Community by denying them access to healthcare services. This study highlights the urgent need and desire of Healthcare staff for training in effective communication strategies, such as sign language, to help the Deaf community gain equal access to Healthcare.

Materials and methods: A cross-sectional survey was carried out between May and July 2022 using the Google Forms platform. An anonymous questionnaire was given to Rehabilitation HWs (RHWs) at a national level to collect information from the HWs of the various areas of rehabilitation, identifying their knowledge, training, and experience with regard to deafness. Data analysis was then carried out using the Google Forms program, SPSS program Windows7 Excel Spreadsheet.

Results: 252 RHWs belonging to 8 different profiles answered this survey. 89% were women. 46% were younger than 30. 57% of these 252 had deaf patients, but 54.6% of these had no prior training. 33% of the RHWs had followed courses or seminars on deafness at least once. When asked, 94% were interested in courses or training in communication with deaf people.

Conclusions: HWs recognize the gap in communication and are willing to learn more in the matter for effective communication with their patients to gain a better therapeutic success. They also consider a program that imparts such knowledge and training to be highly important.

Key messages:

- Therapeutic success is increased if there are effective communication strategies, such as sign language, between the Deaf and Healthcare provider.
- This study shows the importance of training all health workers in effective communication strategies with deaf people to allow an all-inclusive healthcare.

Abstract citation ID: ckae144.1260
We are wales: taking the hospital to the community - an engagement experiment

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In Wales we are facing two major barriers to public health engagement. The first is describing our communities as 'hard to reach' when in public service we make little effort to reach them, and second, we do not consider in population level research or practice how we are perpetuating the sense of, and real, inequality in our communities that our work on social determinants of health and health inequalities seeks to address. In Wales we want to take the 'hospital to the community'; to meet people where they are at, where they live and work and where they experience barriers to inclusion, discrimination, lack of trust and fear. 'We are Wales' is is built on the Museum of the United Nations concept of a global we - except we will start small with a small nation that as yet has not worked out how to include and involve everyone in our communities in the policy and practice decisions that may help, or hinder us all from leading a healthier, happier life. 'We are Wales' is a simple concept; it is about amplifying and connecting people who would not normally do so, because they do not have the resources or capacity to travel or take time out. It is about equal power in a connection to find solutions to adversity and trauma caused by structural inequality; it is about relationships, inclusion, kindness and compassion - and listening, sharing and taking action without judgement. We have taken a dome to communities in economically deprived areas of Wales and stimulated conversation between politicians, young people and communities around the concept of home. Using a virtual reality dome to project images to encourage discussion we have provided a safe space to amplify and include the voices of those who want to be heard and deserve to be listened to.

Key messages:

- 'Take the hospital to the community' - meet people where they are at and feel safe.
- power sharing and an equal place at the table stimulates ideas and knowledge change in a trauma-informed way.

Abstract citation ID: ckae144.1261
An Innovative Public Health Solution with European Features for an American Problem

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Problem: The Eastern Shore of Maryland is a beautiful region that boasts a multicultural community of 455,000 year-round residents. Despite its rural location, the coastal lifestyle attracts retirees, making it the state's oldest population. Unfortunately, the region also has the highest socioeconomic disparities in the state, which creates difficulties in accessing healthcare. This is a significant public health issue that results in costly barriers to preventive care and timely, accounting for $320 billion in unnecessary healthcare spending.

Description of the problem: Maryland's healthcare funding formulas favor larger health systems in urban areas, leading to health inequities. To address this, we propose an innovative scenario analysis model partially based on European public health approaches. This model will adjust funding formulas based on each region's specific needs and challenges, promoting fairness and equity in healthcare funding.

Results: Adopting this population health management approach would have built-in efficiencies: In the United States, healthcare spending tends to be higher among underserved populations due to delayed care, access challenges, missed diagnoses, and limited access to the latest scientific advances as well as proper preventive services.

Lessons: The proposed scenario-based public health funding approach targeting the needs of the underserved population on the Eastern Shore of Maryland could yield significant positive health outcomes and health savings generating a ripple effect across the state, and perhaps even the country. The lessons learned in how other countries handle public health funding could lead to global collaboration.

Key messages:

- Our approach aims to provide a practical solution to unnecessary healthcare spending.
- We must adapt to the changing tides to stay on course.

Abstract citation ID: ckae144.1262
Decoding healthcare strategies: providing comprehensive care for type II diabetes in Ecuador

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Background: Diabetes is a major global health challenge, impacting millions and disproportionately affecting low- and middle-income countries (LMICs), where approximately three-quarters of affected individuals reside. Despite abundant guidance on diabetes management, most evidence is derived from high-resource settings, potentially impeding effective application in low-resource settings. This study explored issues related to the application of the current clinical practice guidelines (CPG) for diabetes management in Ecuador, from the perspective of local health professionals.

Methods: We developed 5 focus groups in Quito, the capital of Ecuador, in a low-income district. The groups included doctors, nurses, and health promoters; they discussed four sections of the CPG concerning their daily practice. Qualitative results are contrasted with quantitative research based on patient records.

Results: The Ecuadorian health system considers patients with diabetes a priority group, yet a patient may wait up to 4 months to receive their first appointments and once they receive their diagnosis several criteria set out in the CPG are not followed due to lack of time and resources, particularly the delivery of multidisciplinary attention. Access to specialized consultations, such as an ophthalmological assessment is severely restricted, and it can take up to a year to get an appointment. Clinicians expressed difficulties in adapting the nonpharmacological recommendations to different socioeconomic backgrounds, while at times, prescription choices are determined by medicine stock regardless of the patient's actual needs.

Conclusions: Healthcare professionals have developed a series of ad-hoc strategies to ensure healthcare for their patients, pointing out the difficulties of applying CPG within a health system that lacks basic resources. Healthcare is intertwined with social inequalities among the Ecuadorian population that have worsened since the covid19 pandemic.

Key messages:

- We identified significant challenges in applying the CPG in low resource settings. Clinicians adapt by introducing novel ways to overcome limitations at times to the detriment of the patient's health.
- CPGs need to be tailored to the context considering socioeconomic realities of the population and limited resources in the health setting.

Abstract citation ID: ckae144.1263
What Makes a Home.Evaluating a Novel Low Support Homeless Accommodation Model Using Co-design Methods

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Background: Homelessness is a global challenge, with a prevalence of 4%; the problem is underestimated due to limitations in data collection. In Ireland, 1% of the population, including children, adults, and families, experience homelessness due to housing shortages and systemic complexities. Homeless accommodation is defined as emergency and temporary; the wording is used interchangeably. The ETHOS typology of homelessness comprises two dimensions - housing-focused and support-focused. Supports range from high to low levels. This study evaluated an emergency housing accommodation with low support to assess its feasibility and impact.

Methods: Previous residents of an urban residential area with low support [introduced in August 2021] and key stakeholders, including policymakers and health and social care professionals, were invited to collaborate in a half-day co-design workshop [February 2024]. The workshop modified Stanford D's five-stage design thinking processes to consider 'How might we harness strengths and abilities to create a home and beyond'. Qualitative data were captured on flip charts, post-its, and via photographs over three rounds of activities following initial reflection regarding 1) identifying emerging challenges, 2) exploring potential solutions, and 3) considering resources for advocacy and success.

Results: Data analyses from 16 participants highlight 1)Personal insights: silence, freedom in decision-making, feeling overwhelmed, valuing independence and understanding accommodation transitions; 2)Organisational insights: developing and promoting independent skills, managing resident preferences and personalities, balancing regulations within emergency accommodation, and staff training. Space was critical in fostering therapeutic well-being and a sense of home environment.

Conclusions: Effective organisational structures are required to facilitate coherent transfers and transitions. Using co-design methods enabled real-world partnerships and engagement.

Key messages:

- Homelessness is a significant public health challenge, and a model of low support emergency accommodation has value in supporting transition through and out of services.
- Engaging with people with lived experience of homelessness is essential for developing supported accommodation models.

Abstract citation ID: ckae144.1264
Nationwide trends in the suicide mortality among the disabled in Korea from 2006 to 2017

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Aims: The disabled are one of the priority populations at risk of suicide, but there has been no study of the factors influencing suicide mortality among the disabled in South Korea.

Methods: To analyze age-standardized suicide mortality (ICD-10 Codes, X60-84) for each year according to the presence, severity and type of disability, we linked three population datasets (National Health Insurance Claims Database, Disability Registry, and Deaths by Cause). Our dataset covers the entire population of South Korea, extended over a 12-year period from 2006 to 2017. The analyses were stratified by sex, and hazard ratios for suicide were determined by multivariate logistic regression after adjustment for socio-demographic and clinical variables.

Results: The suicide rate among the disabled was 2.24 times higher than among the non-disabled in 2017. The highest suicide rates were observed among intellectual or mental disabled, and severe disabled. In the disabled group, suicide rates were higher among those with medical benefits, older age (over 70 years), and depressive disorders in both male and female.

Conclusions: Although the disabled people's suicide is often seen as an individual problem, it actually affects their families, communities and society. Therefore, government must strive to emphasize the broad view of the disabled population - not just the health of individuals, and track suicide trends and identifying risk and protective factors for suicidal behavior. From this information, suicide prevention strategies for the disabled people should be evaluated to identify the most effective interventions. Financial support: This research was supported by the Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education (No. 2022R1I1A3070074, and 2022R1I1A1A01068449), and a grant of Patient-Centered Clinical Research Coordinating Center funded by the Ministry of Health & Welfare, Republic of Korea (No. HC23C016500).

Key messages:

- The suicide rate among the disabled was 2.24 times higher than among the non-disabled in 2017.
- In the disabled group, suicide rates were higher among those with medical benefits, older age (over 70 years), and depressive disorders in both male and female.

Abstract citation ID: ckae144.1265
Formalizing the role of community key individuals in Utrecht, the Netherlands

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Issue: The disconnect between (underserved) communities and governmental bodies in Utrecht, The Netherlands, has led to uneven access to (essential) healthcare services, increasing health inequalities. This gap is often bridged by key community individuals, whose roles have historically been informal. Key individuals are often seen as volunteers who are necessary to gain access to certain communities but are rarely seen as equals in a project team, resulting in mistrust and reduced collaboration on the long term on the side of the key individuals.

Description of the problem: This practice describes the start of a new foundation in Utrecht that formalizes and compensates key individuals' roles in public (health) projects. The aim was to empower them and to encourage continued participation.

Effects: In 2024, the foundation supported key individuals in three government projects, including a childhood vaccination awareness campaign. Interviews revealed that key individuals felt more empowered and equally valued compared to other project members. They also felt a strong responsibility for project success. However, some noted that formal structures could be restrictive. The government felt more convenience working with a formal foundation.

Lessons: Empowering key individuals is crucial for effective collaboration in public health. There needs to be a balance between formal structures and the flexibility of informal approaches to prevent barriers for key individuals to participate in government projects.

Key messages:

- Formalizing key individual roles enhances public health interventions.
- Fair compensation to key individuals fosters sustainable collaboration.

Abstract citation ID: ckae144.1266
Mobile street clinics and harm reduction: pathways to provide care to homeless people in Brazil

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Homeless people (HP) are defined as a heterogeneous group that lives in extreme poverty, with weakened or severed family ties, lacking access to conventional housing, and using public spaces as residence. In terms of health, mental health conditions are prominent as a primary treatment demand, with care aimed at addressing needs arising from the use of alcohol and other drugs being a priority in serving HP. In this context, mobile street clinics (MSC) provide health services directly in street environments, focusing on individuals who use alcohol and other substances through harm reduction approaches. Harm reduction is defined as a set of practices aimed at minimizing the adverse health effects of alcohol and drug use without necessarily eliminating usage. Moreover, it represents an ethical and political direction in care, confronting the logic of criminalization and compulsory abstinence, enhancing access to health care for alcohol and other drug users through strategies that foster autonomy development. In the current study, we conducted an integrative review assessing the facilitators and barriers for HP access to mental health services. Preliminary results indicated that MSC, the connection between healthcare workers and the HP they serve, and the implementation of local street-based actions were the main facilitators of access for individuals who engage in harmful use of alcohol and other drugs to mental health services. Conversely, stigma, services' lack of adjustment to the lifestyles of homeless people, and excessive bureaucracy were identified as the principal barriers of access. MSC, through their harm reduction activities, have emerged as a potential care technology to facilitate access to health services for homeless people. This research aims to present harm reduction as an ethical and political direction of care through the actions of mobile street clinics, as a way to facilitate access to health services for the homeless people.

Key messages:

- Homeless people require mental health care tailored to the use of alcohol and other drugs, and harm reduction strategies implemented through mobile street clinics prove to be an effective form of care.
- Mobile street clinics and harm reduction are important care technologies that enhance access to health services for the homeless population.

Abstract citation ID: ckae144.1267
Regional variations in breast cancer screening uptake and its associated factors in Ghana

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Introduction: Timely identification of breast cancer is critical for successful treatment and prevention, reducing its burden. Despite its significance, breast cancer screening services in Ghana are underutilized, with considerable regional variations in uptake rates. We examined the regional differences in breast cancer screening uptake and its associated factors in Ghana.

Methods: We analyzed data from 15,014 women of reproductive age from the 2022 Ghana Demographic and Health Survey. Spatial mapping illustrated regional variations in screening uptake. Multilevel logistic regression was employed to examine the factors associated with breast cancer screening uptake.

Results: National breast cancer screening prevalence was 18.4%, with regional variations observed across the 16 regions. Eastern, Western, Brong Ahafo, and Greater Accra had the highest screening uptake. The likelihood of breast cancer screening was higher among women aged 45-49 (aOR = 3.59; 95% CI = 12.52, 5.12), Married women (aOR = 1.44; 95% CI = 1.17-1.77), Higher education, employment, health insurance, recent health facility visits, media access, and wealth index (middle: aOR = 1.45, 95% CI = 1.08, 1.94; richest: aOR = 1.91, 95% CI = 1.36, 2.70). Islamic and African Traditional affiliations decrease screening likelihood (aOR = 0.77; 95% CI = 0.63, 0.95; aOR = 0.46; 95% CI = 0.22, 0.97). Rural residence and specific regions (Ashanti, Oti, Savannah, Upper West) reduce odds, while living in North East increases odds (aOR: 1.86; 95% CI = 1.14-3.03).

Conclusions: Cost-effective breast cancer screening services are crucial, particularly in rural areas with geographical disparities. Culturally and religiously sensitive protocols are needed to address regional and religious differences. Expanding Ghana's national health insurance to cover preventive measures like breast cancer screening is essential. Promoting awareness through conventional and digital platforms is crucial for advocating screening.

Key messages:

- Addressing geographical and cultural differences crucial for equitable breast cancer screening in Ghana.
- Expanding health insurance and raising awareness vital to promote screening access and reduce disparities.

Abstract citation ID: ckae144.1268
Prioritizing health, well-being, active ageing needs in Lithuania: insights from stakeholders

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Background: The rate of aging in Lithuania is faster than the EU average. The number of long-term health problems in older (65+yrs) people increases, posing changes in societal needs. The aim of our study was to identify the most important needs of older people in Lithuania.

Methods: Generic qualitative inquiry employed purposeful sampling of stakeholders in Lithuania: policymakers, administration, academia, civil society, health care, social service, public health, organizations of elderly. 43 experts, engaged in online focus groups, generated a list of needs for health, wellbeing, active ageing in elderly; they deliberated to prioritize top 5; scientific team condensed a list of 10 for voting to determine final 5 national needs. Research was done within project "Roadmap to improve the health and well-being of the ageing population in the Baltic Sea Region (AgeFLAG)", 2020.

Results: Top needs identified were: shaping healthy lifestyle habits and motivation for change (72%) / age friendly environment and virtual assistive technologies (72%); person centred care (domiciliary care, residential care and nursing, social activities and etc. depending on the needs and wishes of the older person) (58%); increasing and maintaining physical capacity (56%); intersectoral collaboration and integration of social and health services (53%); establishment of positive public attitudes towards elderly people (50%). All stakeholders indicated that "Establishment of positive public attitudes towards elderly people" is the corner stone of all priorities for action to healthy ageing in Lithuania.

Conclusions: The main issue hindering active and healthy ageing in Lithuania - negative image of ageing in the society. Recommendations on the public health actions included promoting intergenerational conversation, reducing stigmas around ageing, strengthening social inclusion, generating age-friendly environments, and creating a safe space for self-realization and development.

Key messages:

- The main issue hindering active and healthy ageing in Lithuania – negative image of ageing in the society.
- The change in the population requires the transformation of health care and social care systems building age friendly environments in Lithuania.

Abstract citation ID: ckae144.1269
Promoting ownership in local community health promotion interventions

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Background: A prerequisite for successful and sustainable implementation of local community health interventions is strong community ownership. Ownership is related to the level of perceived control of an intervention and its program components. Facilitation of community ownership involves engagement of the stakeholders within the community, e.g. in deciding what the problem is to whom and how to solve it. Much is known about methods to facilitate community engagement at a continuum between informing the community and community control. However, less is known about how different methods for community engagement work to foster and sustain ownership among local stakeholders.

Aim: To generate knowledge about how ownership is fostered or hindered among stakeholders across three different communities in a local community intervention with whole-of-community characteristics implemented to reduce overweight among children. The study also explores how synergies of ownership between various types of stakeholders at different organizational levels influence overall ownership and implementation of the intervention.

Methods: The study is designed as a multiple case study based on Robert K. Yin's principles for case study evaluation. The study takes place in three different Danish Municipalities with different local contextual conditions. Various data sources are collected including sources of qualitative data comprising document analysis, observations, and interviews with key stakeholders.

Preliminary results: An influential contextual factor on local ownership is that implementation of the intervention and commitment to this in 10 years is a top-down decision at the policy level. Local stakeholders find the goals of the intervention meaningful to their day-to-day practices. However, they also experience a shortage of resources for participating and lack trust in higher management stakeholders to take shared leadership when the implementation phase ends.

Key messages:

- Ownership is influenced by the degree of engagement.
- Ownership is influence by the synergy of ownership between different stakeholders.

Abstract citation ID: ckae144.1270
Co-producing evidence to inform universal health coverage implementation in Ireland: 2019-2024

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Background: In 2017, Ireland's parliamentary health committee published a ten-year health reform plan, entitled Sláintecare, with the aim of delivering universal healthcare. Endorsed by government in 2018, progressing Sláintecare remains government policy in 2024. In 2019, Prof Burke was awarded public funding to co-produce knowledge for the design and implementation of the regions, a key aspect of Sláintecare. In 2020, with the arrival of COVID-19, regional reform was paused and the research pivoted to capture the learning from the COVID-19 health system response to inform Sláintecare. In 2022/3, the research returned to focus on the regions.

Methods: Foundations' research resulted in 14 peer-reviewed publications between 2019 and 2023. These were mixed-methods using qualitative and quantitative data and analysis. Coproduction with health system leaders that were devising and implementing the regions and the COVID-19 health system response underpinned the research.

Results: There are 14 academic publications from the Foundations Research (2019-2023). At the core of co-production is trust and good working relationships. Co-producing research with senior policy makers and implementers has benefits and drawbacks. The benefits include access to resources and data and that the data and knowledge generated are more likely to be adopted. Drawbacks include control over areas researched, denial of access to data and lack of openness to research findings. Producing controversial findings, unpopular with government, minister or health system leaders can also lead to difficulties for the research team.

Discussion/conclusions: Details of the coproduction process with senior health system and policy leaders will be presented. It will detail specific examples of the research which were initiated by the health system and those that came from the academic research team. It will give examples of how the research influenced the policy making and implementation processes.

Key messages:

- Co-producing research between academics and health system and policy leaders leads to better use of evidence.
- Trust and good workign relationships are key to co-producing research that is used in policy making and implementation processes.

Abstract citation ID: ckae144.1271
Implementing a pilot primary care program: Armenia's steps toward universal health coverage

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Problem: Armenia has struggled to transform its ineffective primary healthcare (PHC) system into one that can address the non-communicable disease burden, which causes 93% of mortality. To address this issue, Armenia aims to establish universal health coverage and invest in high-quality primary care.

Description: In 2023, the Armenian Ministry of Health signed a multisectoral policy to implement a pilot primary care program to trial a multitude of reforms related to diabetes (DM) and hypertension (HTN). Pilot interventions include pathways for screening/diagnosis, provider training, free medications and diagnostics, and new provider financial incentives. The key question to be answered is if these pilot interventions cause DM and HTN health outcomes to improve. Beginning in 2024, the program is being piloted in a primary care clinic in Dsegh.

Results: As a result of the 2023 Ministerial policy, multisectoral stakeholders designed and implemented this pilot program. Baseline focus groups found that the pilot addresses the financial barriers that community members noted lead to delays in seeking care and that providers perceive the pilot to be beneficial to their patients. Although final results are not yet available, the pilot has already positively changed features in the national EMR and brought together stakeholders in a way never done before.

Lessons: The pilot's innovation comes from it being the first time that hypertension and cholesterol medications are provided by the government for free, provider bonuses are based on outcome indicators, indicator targets are set this high, a point-of-care A1c machine is utilized, and a robust monitoring and evaluation (M&E) plan is implemented, all of which are currently shaping discussions on national policy. For countries similarly working on strengthening primary care, it is recommended to pilot specific reforms and establish mechanisms through M&E systems that allow pilots to inform evidence-based decision making.

Key messages:

- To move towards universal health coverage, pilot programs designed with multi-sectoral stakeholders are needed to trial suggested healthcare reforms.
- It is essential to invest in monitoring and evaluations systems to generate the data necessary to develop evidence-based policies.

Abstract citation ID: ckae144.1272
Perinatal mortality in women in minority ethnic groups in Ireland (2011-2021)

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Women in minority ethnic groups (MEG) have been consistently overrepresented in the National Perinatal Epidemiology Centre (NPEC) Perinatal Mortality (PM) reports in Ireland (IE). International research, report similar findings. A secondary analysis of NPEC PM national clinical audit data (2011-21) examined factors associated with PM in women in MEG and differences between these and white women. Maternal sociodemographic and obstetric characteristics, maternal medical history, infant characteristics and PM outcomes of women in MEG were analysed and compared with women of white ethnicity with $\chi 2$ tests. There were 4314 PMs in IE from 2011-21; 2896 stillbirths (SB) and 1418 early neonatal deaths (ENND). Women in MEG who experienced PM were younger ($p < 0.001$) and 46% were employed (vs 75% of white women, $p < 0.001$). A greater proportion of women in MEG had previous pregnancies (77% vs 68%, $p < 0.001$), and more than twice as many had ≥ 3 previous completed pregnancies versus white women (26% vs. 12%, $p < 0.001$). Women in MEG also had more previous pregnancy medical issues (49% vs 38%, $p = 0.001$). Twice as many women in MEG had their first prenatal appointment after 20 weeks' gestation or never received prenatal care ($p < 0.001$). Analysing by type of PM, statistically significant differences persisted for all these variables in both SB and ENND groups. Women in MEG experienced more placental conditions and obstetric factors as causes of PM, but fewer congenital anomalies compared to white women ($p = 0.047$). These differences only persisted in the SB group when data was analysed by type of PM. Factors highlighted in this study such as employment, parity, and prenatal care access may explain the over-representation of women in MEG in PM. These findings provide further knowledge useful to create targeted interventions (e.g. initiatives to improve maternal health literacy for women in MEG). Further studies are needed to promote change that would specifically address these systemic inequities.

Key messages:

- Data shows systemic inequities that may contribute to the over-representation of women in minority ethic groups in perinatal mortalities. Clear and tangible changes are needed to address these issues.
- Further research needs to clarify factors restricting access of women in minority ethic groups to prenatal care and promote interventions to ensure adequate prenatal care is available and accessible.

DE. Poster display: Chronic diseases and NCDs

Abstract citation ID: ckae144.1273
Strategies to improve recruitment to multimodal group programmes for obesity: a systematic review

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Background: The World Health Organization describes obesity as one of the greatest public health challenges in the 21st century. Possible therapies include multimodal (group) programmes with nutrition, exercise, and behavioural therapy elements. However, programme providers often have difficulties recruiting the target groups and motivating them to participate. This systematic review aimed to identify barriers and facilitators as well as strategies to improve recruitment.

Methods: We systematically searched five databases (Medline, CINAHL, Cochrane, PsycInfo, Web of Science). Based on predefined inclusion criteria, we selected primary studies of different study designs (e.g. [randomised] controlled trials, qualitative studies). We extracted barriers and facilitators as well as recruitment strategies into predefined tables, assessed the quality of the studies and summarised the results narratively.

Results: Of the 1,082 articles identified, 16 met the inclusion criteria. The main active recruitment strategies were writing directly to potential participants and referrals from health professionals. The most frequently reported passive strategies included media adverts, websites, flyers, social media, and word of mouth. The information on how many people approached actually participated was heterogeneous, which illustrates that recruitment depends on the setting/context and the people involved. Some studies came to contradictory results, e.g., regarding whether passive or active methods are more successful. In most cases, a combination of strategies was recommended. The studies reported numerous recruitment barriers, e.g., lack of staff time, lack of motivation, or fear of discrimination.

Conclusions: The review provides a broad overview of recruitment methods that can be applied depending on the framework conditions and target groups. The summary of possible barriers can serve as an overview of which aspects could be considered when designing or adapting a programme.

Key messages:

- To improve recruitment to obesity programmes, a combination of several recruitment strategies, including active and passive methods, should be applied.

- Results on the "effectiveness" of the strategies were inconclusive, which indicates that the success of methods depends on the context, setting and the people involved.

Abstract citation ID: ckae144.1274
Housing items and amenities a non-traditional risk factors for all-cause and cardiovascular mortality

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Background: Higher satisfaction levels are associated with improved psychological well-being (PWB), such as housing amenities being a determinant of health. However, their potentially influencing effect on mortality risk at this moment is not enough. For this reason, searching for non-traditional risk factors that could reduce all-cause and cardiovascular disease (CVD) mortality risk is our primary objective of this study.
Methods: The cohort study was based on the framework of the international study Health, Alcohol and Psychosocial Factors in Eastern Europe (HAPIEE). Data from the Official Lithuanian Mortality Register were used to evaluate mortality from the baseline survey (2006- 2008) to 31 December 2022. The 20 housing items and amenities were used. The items were categorized into three groups: basic needs, socially oriented needs, and luxury.
Results: A total of 6472 participants aged 45-72 years were examined in the baseline survey. Cox proportional hazards regression analysis results show that increasing the number of housing items per 1 unit decreased the risk of all-cause mortality by 8% (Hazard ratio (HR)=0.92;95%CI 0.90-0.94) in males and by 7% (HR = 0.93;95%CI 0.91-0.96) in females. Increasing the number of housing items per 1 unit decreased the risk of mortality from CVD by 10% (HR = 0.90;95%CI 0.87-0.93) in males and by 9% (HR = 0.91;95% CI 0.87-0.95) in females (data adjusted by age, education, smoking, metabolic syndrome, PWB, CVD at baseline survey). Once more, the increased number of items from the luxury group (4-7 vs. 0-1) significantly decreased all-cause and CVD mortality risk (respectively in males HR = 0.74(95%CI 0.60-0.91) and HR = 0.71(95%CI 0.52-0.96); in females HR = 0.66(95%CI 0.48-0.91) and HR = 0.57(95%CI 0.33-0.96).
Conclusions: These data suggest that the increasing number of household items and amenities, as an essential aspect of people's lives, may be used as non-traditional risk factors in assessing the risk of all-cause mortality and CVD.
Key messages:
- Household items and amenities may be used as non-traditional risk factors in assessing the risk of all-cause mortality and CVD.
- Increasing the number of housing items decreased the risk of all-cause and CVD mortality.

Abstract citation ID: ckae144.1275
Blood pressure and its control in adults: the Italian Health Examination Survey 2023-CUORE Project

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Background: The WHO recommends a 25% relative reduction in the prevalence of raised blood pressure (RBP) by 2025, considering 2010 as baseline. To monitor the achievement of this target, prevalence of RBP and mean blood pressure were measured in the Italian general adult population within periodic health examination surveys (HESs) conducted within the CUORE Project.
Methods: In 2023 a new HES started including, up to now, data from random samples of residents aged 35-74 years (706 men, 727 women) in 7 Regions (of 20 regions) distributed in North, Centre and South of Italy. Blood pressure was measured at the right arm, in sitting position, by automated oscillometric device using standardized procedures and methods; the average of two measurements performed with 1 minute interval was used for the analysis. RBP is defined as systolic and/or diastolic blood pressure equal or greater than 140/90 mmHg. The survey is funded by the Italian Ministry of Health-CCM.
Results: Preliminary analysis shows that prevalence of RBP is 37% (95% Confidence Interval-CI: 30-46%) in men and 23% (17-29%) in women. Mean value of systolic blood pressure is 134 mmHg (133-136 mmHg) in men and 126 mmHg (125-127 mmHg) in women. Mean value of diastolic blood pressure is 80 mmHg (78-81 mmHg) in men and 75 mmHg (74-76 mmHg) in women. Among those with RBP and/or in treatment (49% of men and 39% of women), 35% of men and 19% women are unaware they could have BP control problems, 8% and 9% are aware but not in treatment, 24% and 40% are under treatment and at target, 33% and 22% are under treatment but not at target, respectively.
Conclusions: These preliminary data underline that RBP is still high in the Italian adult population. Significant reductions in RBP prevalence occurred in comparison to previous HES data, 20% from 25 years ago, about 10% from 15 year ago, while a stable trend was found in comparison to 5 years ago. Improvements on RBP awareness and control are still necessary.
Key messages:
- Raised blood pressure is still high in the Italian general adult population.
- Implementing periodic HES is fundamental to measure blood pressure and estimate awareness and control of hypertension in the general population.

Abstract citation ID: ckae144.1276
Educational inequalities in cervical cancer mortality: A systematic review and meta-analysis

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Background: Educational inequalities in mortality continue to persist. We aimed to systematically analyse the association between level of education and cervical cancer mortality.
Methods: We conducted a systematic review and meta-analysis. We systematically searched Pub-Med, Web of Science, Scopus, EMBASE and Global Health (CAB), EconLit and Sociology Source Ultimate databases. A protocol has been registered with PROSPERO (CRD42023411757). We included studies that measured the association between level of education and cervical cancer mortality using individual level data. Included articles were assessed for study quality and risk of bias using the Joanna Briggs Institute critical appraisal checklists. A random-effects meta-analysis was conducted to evaluate the overall and stratified effects of education on mortality.

Findings: Our literature search resulted in over 47,000 articles. 30 studies mentioned cervical cancer as a cause of death, and of these, 11 were eligible for the meta-analysis. Results showed an overall risk ratio of 2.41 (95% CI 1.81-3.20) for low education (ISCED 0-2) and 1.62 (95% CI 1.18-2.24) for medium education (ISCED 3-4). Those aged 25-64 with low education had more than twice the risk of cervical cancer (RR = 5.73; 95% CI 5.04-6.51) compared to those aged 25 and above (RR = 2.11; 95% CI 1.82-2.45). Besides, the impact of an additional level of education on reducing risk of cervical cancer mortality was higher in Northern Europe, compared to the South.

Interpretation: Lower educational attainment is associated with an increase in the risk of cervical cancer mortality, with an additional level of education greatly reducing this risk in Northern Europe. Younger cohorts with low education have a higher risk of cervical cancer mortality. This study provides important information for evidence-based policy seeking to reduce health inequities and inequalities in both the health and education sector.

Key messages:

- Lower educational attainment is linked to a higher risk of cervical cancer mortality.
- Younger cohorts (aged 25-64) with low education are at a particularly heightened risk compared to those aged 25 and above.

Abstract citation ID: ckae144.1277
Unmet needs and satisfaction with healthcare in patients with multimorbidity

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Background: Health outcomes of patients with multimorbidity are associated with the satisfaction with the care received. The objective of this study is to describe and compare the needs, adequacy of and satisfaction with the received healthcare in patients with complex chronic diseases in Spain.

Methods: Data from a convenience sample of patients participating in the Access to Diagnosis and Treatment and Healthcare Survey (Spanish Patient Organizations Platform, 2022). The chronic conditions were grouped into osteoarticular, cardiovascular, neurological, respiratory, diabetes, rare diseases, digestive, vision diseases, cancer and others. The main variables included were satisfaction with the received care (0-10), perceived adequacy of care (1-5) and unmet needs (yes/no). Bivariate analyses (chi-squared and Mann-Whitney tests and correlation coefficients) were performed.

Results: 1133 patients answered the survey: mean age 49.5 years (standard deviation, SD: 14.8), 55.1% women, mean of 2.9 chronic health conditions (SD: 1.7). Participants showed higher levels of satisfaction with routine follow-ups and control of diseases than with access to rehabilitation and specialized care. Satisfaction with healthcare was associated with perceived adequacy of follow-ups (r= -0.79, $p < 0.01$). Patients with osteoarticular pathologies reported a higher number of unmet needs (57%), rated the care received as less adequate (mean 3.4; SD: 0.9) and less satisfactory (mean 4.2; SD: 2.8). Patients with cancer reported fewer unmet needs (6%), considered the care adequate (mean 2.9; SD: 0.9) and satisfactory (mean 6.8; SD: 3.1). Similar figures were also seen in patients with cardiovascular diseases.

Conclusions: Knowledge on patients' perceived unmet needs and demands may lead to improving satisfaction with the health system. Comprehensive care for people with multimorbidity, including assessing patients' perception, is a challenge that must be addressed by healthcare systems.

Key messages:

- The analysis of the differences between pathologies in their demands will better describe the reality of patients with multimorbidity in Spain.
- The perception of healthcare adequacy and satisfaction greatly varies across the type of chronic condition.

Abstract citation ID: ckae144.1278
Associations between diabesity and mortality over 7 years: a Maltese population-level case study

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Introduction: Diabesity presents a growing global epidemic. Demographic and socioeconomic associations have been documented, yet, the literature on mortality risk associated with diabesity is scarce. The aim of this study was to assess whether diabetes and/or diabesity increas the risk of all-cause mortality across a period of 7 years at a population level.

Methods: A nation-wide health examination survey in Malta was conducted between 2014 and 2016. This collected sociodemographic information, bio-anthropometric measurements (waist circumference, body mass index [BMI], body adiposity index [BAI]) and blood samples. Mortality information was acquired in 2021 by cross-referencing with the national mortality register. Statistical analysis was conducted using chi-square tests and Cox proportional hazard models.

Results: A mortality rate of 1.67% was observed ($n = 3947$), with diabetes and obesity being responsible for 6.06% and 3.03% of deaths, respectively. Examining the deceased individuals alongside their baseline characteristics (2014-2015) revealed that 25.76% (CI95%: 16.75 - 37.44) had diabetes, and 30.30% (CI95%: 20.55 - 42.22) were obese. Diabetes was associated with significant mortality risk (HR: 2.65 CI95%: 1.20 - 5.85; $p = 0.02$), while diabesity showed borderline significance ($p = 0.06$). After adjustment for potential confounding factors the mortality risk linked to diabetes remained significant and BAI was the only anthropometric measurement positively associated with mortality.

Conclusions: These findings emphasise the urgency for comprehensive public health policies targeting the concurrent prevention and management of diabetes and obesity at a population level. Our results also indicate that incorporating body adiposity index (BAI) into risk assessment protocols may provide valuable insights into mortality risk prediction and inform tailored interventions.

Key messages:

- Diabetes and a high BAI score were significantly associated with mortality in the Maltese population, while diabesity had moderate significance, emphasising the urgency of tackling this epidemic.
- These findings call for broad health policies to address diabesity at a population level and suggest integrating BAI into risk assessment for better mortality prediction and tailored interventions.

Abstract citation ID: ckae144.1279
Cardiovascular diseases risk assessment: the Italian Health Examination Survey 2023 - CUORE Project

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Background: The reduction of NCDs premature mortality is pursued by the WHO; risk conditions targets are recommended as well as population-level monitoring of cardiovascular disease (CVD) risk. The Italian Ministry of Health (MoH) has strengthened prevention/health promotion and supported periodic CVD risk assessment through national health examination surveys (HESs), funded by the MoH-CCM and conducted within the CUORE Project.

Methods: In 2023 a new HES started including the 10-year fatal and non-fatal CVD risk assessment based on knowledge of sex, age, smoking habit, measured systolic blood pressure and fasting total and HDL serum cholesterol, and presence of diabetes (on measured fasting serum glycemia and/or treatment) and anti-hypertensive therapy. Up to now, data from random samples of residents in 7 Regions (of 20 regions) distributed in North, Centre and South of Italy, aged 35-69 years, without previous CVD, are available (585 men, 617 women). Determinations were assayed by a central lab. CUORE Project functions developed on and for the Italian adults were used.

Results: Mean values of the CVD risk assessment resulted 6.9% (95% CI: 6.3-7.4) in men and 2.3% (2.1-2.5) in women. For men aged 35-44 years risk was 1.6% (1.5-1.8), for 45-54 years 3.8% (3.5-4.2), for 55-64 years 10.0% (9.0-10.9), for 65-69 years 17.6% (16.4-18.9); for women was 0.5% (0.4-0.6), 1.0% (0.9-1.1), 3.3% (2.9-3.7) and 6.0% (5.5-6.6) respectively. Prevalence of CVD risk less than 5% was 57% (49-64) in men and 88% (84-93) in women, of 10-15% risk were 22% (15-28) of men and 9% (5-14) of women, of 15-20% risk were 5% (1.6-8.0) of men and 0% of women, of over 20% risk were 2% (0-3.6) of men and 0% of women.

Conclusions: Compared to 2008, these data showed stable mean levels of CVD risk both in men and women at any age-classes and stable prevalence of CVD risk classes. CVD risk perception represents a challenge in primary prevention especially for young age groups and women.

Key messages:

- In the Italian general population, CVD risk assessment remained stable compared to 15 years ago.
- CVD risk perception represents a challenge in primary prevention.

Abstract citation ID: ckae144.1280
Adapting a cultural dance program to prevent cognitive decline: insights from experts and educators

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Leveraging activities such as cultural dance shows promise as an effective basis for chronic disease prevention and management with at-risk populations. In fact, recent WHO reports and resolutions advocate utilizing cultural context to achieve health equality. Hula, the Native Hawaiian indigenous dance has been successfully utilized in interventions with statistically significant improvement in medication resistant hypertension management and heart disease prevention. In this study, Alzheimer's Disease and Related Dementia (ADRD) experts and kumu hula (hula experts and educators) provide insights to developing a hula-based lifestyle program for prevention of cognitive decline. Informant interviews were used to collect information for developing a hula-based program for individuals with mild cognitive impairment from 4 ADRD experts and clinicians, and 4 kumu hula. The 60-90 minute semi-structured interviews were conducted, recorded, then transcribed. Separate thematic analysis allowed distinct themes for each group to emerge. Themes with greatest between group alignment informed the adaptation of an existing hula-based chronic disease intervention. The clinical and cultural experts were unanimous on multiple themes. First, a hula-based program was well positioned to promote social functioning. Second, hula facilitated integrated multi-dimensional benefits including physical, cognitive, social, and cultural. Third, facilitating learning included: repetition done in creative forms; utilization of aids such as dance notation and audio recordings; and educational approaches such as project-based learning. Cultural activities such as dance have been underutilized in health promotion initiatives. A significant challenge in health promotion programs is engagement and retention of participants. Cultural dance programs are popular and can be effective interventions, particularly when both clinical and cultural experts are engaged in program development.

Key messages:

- Inclusion of clinical and cultural experts in health promotion program development leads to unique collaboration and impactful insights.
- ADRD clinicians and Hawaiian cultural dance educators identify social, cultural, physical, and cognitive benefits of hula as instrumental for individuals with mild cognitive impairment.

Abstract citation ID: ckae144.1281
Joint Action JACARDI: a context analysis on CVDs and diabetes policies and practices

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Issue/problem: Non-communicable diseases are the leading cause of death and disability in Europe, with 63 million people living with cardiovascular diseases (CVDs) and 32 million with diabetes (DM) in 2019. The EU-co-funded Joint Action on CVDs and diabetes (JACARDI), with 76 partners from 21 countries, aims to reduce CVDs and DM burden at European level through 142 pilot projects.

Description of the problem: For an effective and tailored pilots' implementation, a preliminary step is to assess the current state of strategies and services for CVDs and DM prevention and management in Europe. We adopt the Gap Analysis methodology aiming to evaluate the gap between the current and the ideal state, the latter defined according to scientific evidence, best-practices, guidelines, and expert's opinions. For this purpose, 12 questionnaires, one for CVDs and one for DM for six different thematic areas, were developed through a participatory approach that fostered the collaboration between the scientific coordination team and the project members.

Results: Questionnaires were sent to National Focal Points for health covering 29 European countries. We anticipate receiving responses from each country covering aspects related to the legal and strategic framework, the intersectoral and equity-oriented approaches, the funding and the service delivery and capacity for CVDs and DM. This information will be collected across each of the six thematic areas corresponding to six technical Work Packages (WP): health literacy, data, screening, integrated-care pathways, patients self-management, labour participation. The survey will be completed by June 2024, and results by WP and country will be presented.

Lessons: The context analysis, based on the Gap Analysis methodology, allows to identify gaps between the current and ideal state in CVDs and DM prevention and management. This will guide JACARDI's pilots to address gaps and serve as a roadmap to inform European policy-makers.

Key messages:

- The context analysis will provide an invaluable overview of the current European state of CVDs and DM prevention and management.
- The context analysis will support JACARDI's pilots in addressing identified gaps and policy-makers in shaping public health responses.

Abstract citation ID: ckae144.1282
Association of physical activity with health-related quality of life in rectal cancer survivors

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Background: Health-related quality of life (HRQoL) in rectal cancer survivors after completion of surgical treatment may be influenced by various factors including physical activity. The purpose of this study was to examine the association between regular exercise and physical and mental health in rectal cancer survivors.

Methods: People who underwent surgical resection of rectal cancer with temporary ileostomy from 2018 to 2021 were invited to participate. Participants were drawn from the Clinic for Digestive Surgery and the Clinic for Emergency Surgery of the University Clinical Center of Serbia, as well as the nationwide laparoscopic program - LapSerb consortium. Data were collected through interviews in late 2022 and early 2023. The HRQoL was evaluated using the physical composite score (PCS) and mental composite score (MCS) of the Short Form-36 (SF-36) questionnaire. Socio-demographic, clinical and behavioral characteristics including the frequency of exercise were analyzed in multiple linear regression models.

Results: A total of 134 rectal cancer survivors were tested. Few participants (18.7%) exercised regularly, while most of the study population occasionally (41.8%) or never engaged (39.5%) in physical activity. Rectal cancer survivors who exercised regularly had significantly higher scores of physical (75.5 vs. 62.8, $p = 0.019$) and mental quality of life (78.9 vs. 63.8, $p = 0.008$). Regular exercise remained associated with better physical and mental health after the adjustment for demographic, clinical and behavioral characteristics.

Conclusions: Consistent physical exercise seems to be significant contributor of better physical and mental quality of life in rectal cancer survivors after completion of surgical treatment.

Key messages:

- Physical exercise may help rectal cancer survivors improve their physical and mental health.
- Promotion of physcial activity in rectal cancer survivors could optimize recovery after surgery.

Abstract citation ID: ckae144.1283
Assessment of a Therapeutic Education Program for Coronary Patients: Quasi-Experimental Study

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Introduction: Therapeutic education is a patient-centered, approach aimed at addressing the patient's needs and resources. It is intended not only to help the patient understand their illness and treatment but also to empower them to become autonomous. So far, in Tunisia, we lack structures for therapeutic education specifically tailored for coronary patients. In this context, we implemented a Therapeutic Education Program (TEP) for coronary patients visiting the cardiology department at Sahloul University Hospital with the aim of assessing the impact of this program in the short, medium (3 months), and long term (12 months).

Methods: We conducted a quasi-experimental study on TEP for patients with coronary artery disease over one year at Sahloul University Hospital. Patients were divided into two groups, intervention, and control. Outcome measures included major cardiovascular events, improvement in knowledge, and biological indicators, with statistical analysis performed using SPSS in accordance with ethical considerations.

Results: The study included 129 patients, of whom 38 underwent a therapeutic education program. TEP demonstrated a significant improvement in knowledge about coronary artery disease, with program satisfaction rated ≥ 8 on a scale of 0 to 10.Our program also showed improvement in biological parameters, particularly lipid profiles, within the educated group before and after 3 months, such as LDL cholesterol levels (2.53 vs 1.88, $P < 0.001$), and compared to the control group (1.88 vs 2.9, $P = 0.001$).Moreover, it led to a significant reduction in long-term cardiovascular events compared to the control group (21.1% vs 59.3%, $p < 0.001$).

Conclusions: this study underscores the crucial importance of therapeutic education in enhancing the care and quality of life of coronary patients, highlighting its central role in a proactive, personalized approach to medical management.

Key messages:

- The significance of therapeutic education in empowering patients to understand their condition and become self-reliant.
- Need for Structured Programs specifically for coronary patients in Tunisia.

Abstract citation ID: ckae144.1284
Primary prevention of type 2 diabetes in the EU: A systematic review of interventional studies

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Background: The GBD 2019 study revealed that type 2 diabetes caused over 109.000 deaths and accounted for 5.3 million Disability Adjusted Life Years in the EU, with an estimated annual cost of EUR 300 billion in 2014. Interventions for primary prevention are pivotal in preventing diabetes, providing a structured approach to implementing lifestyle modifications or community-based programs. The objective of this study was to demonstrate the effectiveness of primary prevention interventions to prevent or delay the onset of type 2 diabetes in the EU member states.

Methods: A systematic review on six databases was conducted for relevant interventional studies carried out in the EU-28. The main outcome of the studies was determined by changes in the incidence of type 2 diabetes.

Results: The search yielded 18.885 records, of which 18 met the eligibility criteria. The following studies reported significant incidence reduction in the intervention groups: The Finnish Diabetes Prevention Study by individualised lifestyle intervention (HR: 0.614, 95%CI: 0.478-0.789), the Spanish CORDIOPREV Study through increased plant protein intake (HR: 0.64, 95%CI: 0.43-0.96), the Spanish PreDE trial by promoting healthy diet and physical exercise (RR: 0.68, 95%CI: 0.47-0.99), the Norfolk Diabetes Prevention Study with intensive diet-exercise counselling (OR: 0.57, 95%CI: 0.38-0.87), the Spanish PREDIMED and PREDIMED-Reus trials by mediterranean diet supplemented with extra virgin olive oil or mixed nuts (HR: 0.60, 95%CI: 0.43-0.85; HR: 0.49, 95%CI: 0.25-0.97; HR: 0.48, 95%CI: 0.24-0.96), and the Dutch SLIM Study with advices on diet and physical activity (RR: 0.53, 95%CI: 0.29-0.97).

Conclusions: Significantly decreasing the incidence of diabetes is feasible within primary healthcare settings through intensive lifestyle interventions targeting individuals at high risk. Therefore, it would be beneficial to incorporate these findings into the European guidelines for preventing type 2 diabetes.

Key messages:

- Primary care plays an important role in the prevention of type 2 diabetes.
- Well-defined primary lifestyle interventions are capable of slowing the progression from prediabetes to diabetes.

Abstract citation ID: ckae144.1285
Measurements and medication data are indispensable for population blood pressure monitoring

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Background: The National Study on Health of Older People in Germany "Gesundheit 65+" included blood pressure (BP) measurements at home by a study nurse and classification of all current medication.

Methods: Nationally representative examination survey of the population aged 65 years and older residing in Germany using two-stage population registry sampling from 128 sample points, with a standardized examination at home from June 2022 to April 2023. Three standardized blood pressure measurements at two-minute intervals were taken after 5 minutes rest with an oscillometric device (Mobil-O-Graph) using one of five cuffs according to upper arm circumference. The mean of the second and third measurement was used for analysis. Hypertension was defined as mean systolic BP (SBP) at or above 140 mmHg, or mean diastolic BP (DBP) at or above 90 mmHg, or the use of antihypertensives (antihypertensives, diuretics, beta-blockers, calcium-channel blockers, ACEI and ARB) in participants with self-reported hypertension diagnosis. Provisional weights account for unequal sampling and participation probabilities.

Results: The "Gesundheit 65+" examination part included 1,493 participants of whom 1,475 (98.8%) had successful BP measurements (763 men and 712 women, aged 66 to 101 years). Based on self-reported diagnoses alone, the prevalence of hypertension would be 58.3% [95% CI 53.2-63.3] in men and 59.5% [53.8-64.9] in women. However, overall hypertension prevalence was estimated at 70.4% [65.8-74.7] in men and 72.3% [66.9-77.1] in women based on the study definition which combines self-reported diagnoses, standardized BP measurements and medication.

Conclusions: The prevalence of hypertension is greatly underestimated in the absence of examination survey data with standardized measurements and recording of medication use. In addition, measurement and medication data are needed for monitoring the hypertension cascade, i.e. awareness, treatment and control of hypertension.

Key messages:

- Hypertension prevalence is underestimated in the absence of health examination surveys with measurements and medication data.
- The hypertension cascade, i.e. assessment of awareness, treatment and control of hypertension needs population surveys with measurements and medication assessment.

Abstract citation ID: ckae144.1286
Thirty-five years of personalized promotion. The contribution of medicine in the workplace

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Issue/problem: Occupational medicine has always had the task of identifying and solving problems caused by exposure to occupational risks and improving the health conditions of workers. This traditional prevention task can be advantageously associated with promotional activities to reduce the incidence of non-communicable diseases.

Description of the problem: Since the end of the 1980s we have conducted health promotion interventions in the workplace, integrated into the company's occupational prevention plan. The results, discussed internationally, have allowed the improvement of projects such as the one presented here, aimed at the prevention of cardiovascular and metabolic risks.

Results: Workers carry out a clinical check integrated with blood chemistry tests, actigraphic measurement of physical activity and sleep, bioimpedance measurement and plicometry, to objectify the data of interest. Furthermore, they keep a food diary and answer questionnaires on lifestyle, stress, and sleep. They receive personalized non-pharmacological treatment aimed at making salutogenic changes to diet, sleep, physical activity, and relaxation methods. They are monitored monthly and carry out a follow-up after six months. The pilot study, conducted on 20 healthcare workers with previously undiagnosed metabolic problems, indicates a significant improvement in abdominal circumference, systolic blood pressure and sleep duration in the third month. Workers report a high level of satisfaction with the initiative, a lower level of occupational stress and a higher quality of sleep.

Lessons: Accumulated experience demonstrates that projects of this type are feasible, sustainable, and advantageous and can be applied to companies of all sizes, regardless of the quantity of resources available.

Key messages:

- Health promotion in the workplace can contribute to the reduction of chronic non-communicable diseases.
- The active participation of workers in health promotion activities contributes to improving job engagement and satisfaction derived from work.

Abstract citation ID: ckae144.1287
Advancing Dementia Care in Austria: developing a Dementia Registry using a multimethod approach

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Background: Austria faces an increasing demand for dementia care in an ageing population. However, a lack of representative data hampers evidence-based policy development and evaluation of care. To address this gap, the Austrian National Institute of Public Health is undertaking the task of developing the Austrian Dementia Quality Registry (ÖDQR).

Methods: Based on the AIHTA Good Practice Framework for Dementia Registries, the development and testing of the ÖDQR has unfolded in 4 distinct phases: 1) planning; 2) registry design (including definition of quality indicators and minimum data set, recruitment, and governance); 3) definition of data collection, sources, and management; 4) pilot testing. A steering committee of government representatives and dementia care experts was convened to oversee the project. A scientific committee provided oversight and ensured methodological rigor. Working groups of national and international dementia care experts focused on standards for diagnosis and therapy, activities of daily living and quality of life, legal aspects, and technical implementation, thus contributing to the content development of the ÖDQR.

Results: An initial systematic literature review informed the selection of quality indicators in the working groups. A conceptual framework of 15 descriptive and 30 quality indicators was developed. Preliminary results of pilot testing indicate feasibility and content validity. As a result, the ÖDQR will be established as a longitudinal survey-based registry, based on an instrument comprising 163 variables and emphasizing data collection across care settings. Legal and technical frameworks are being developed.

Conclusions: The öDQR holds the promise of informing evidence-based policy and improving the quality of dementia care in Austria. Careful planning and collaboration have laid the foundation for a data repository that will inform policy and improve care for people with dementia and their caregivers.

Key messages:

- Dementia registries require a complex development to assure validity and adherence.
- The Austrian Dementia Registry aims to establish best practice by focusing on the life situation of those affected by this condition.

Abstract citation ID: ckae144.1288
Implementing a chronic disease self-management program in Moldova: a roadmap for sustainability

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Chronic disease self-management programs are evidence-based interventions but achieving their sustainability can be challenging. We propose a roadmap to sustainability that examines the transferability of intervention components and fosters multi-level and multisectoral partnerships.

Since 2019, the Swiss Agency for Development and Cooperation's Healthy Life project, in cooperation with the Ministry of Health of Moldova, has implemented a self-management program in rural communities. At pilot stage, we achieved a 53% increase in participants' self-efficacy (Palmeirim et al, 2024). To date, the program has reached 1432 beneficiaries in 70 communities. The intervention cost per participant was approximately 74 Euros. Our evidence supported the inclusion of self-management in the national non-communicable disease program 2023-2027. We designed a roadmap to hand over this innovation to Moldovan public health institutions. Firstly, we unpacked the intervention into transferable resources, processes and roles. These included human resources (a network of 140 facilitators), pedagogical resources (culturally adapted facilitator training and self-management workshop content) and key operational processes (coordination, resource management, partnership building, monitoring and evaluation). Then, we convened a national workshop to discuss the transfer of these components to relevant institutions. We emphasized working in a coordinated partnership across institutions for intervention delivery. Finally, we launched a national working group that will work on the operational modalities of this multi-stakeholder partnership. Achieving an enabling policy environment for self-management created favorable conditions and accountability for institutional partnership building. A strategic reflection on our partner ecosystem was key to leverage local and national interests in continuing self-management approaches.

Key messages:

- We have established priorities among transferable intervention components to match country stakeholders' ability and readiness to sustain innovative approaches.
- We are building an institutional partnership across sectors based on complementarity of experience to sustain the delivery of a self-management intervention.

Abstract citation ID: ckae144.1289
Oral health related cardiovascular disease risk factors: a cross-sectional study

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Background: Hypertension, cardiovascular disorders, and hypercholesterolemia represent significant public health concerns. This research presentation examines the impact of various oral health indicators, such as bleeding gums, untreated dental decay, loose teeth, and missing teeth, on these conditions within Hungary.

Materials and methods: This study utilized data from 5,603 individuals participating in the 2019 Hungarian European Health Interview Survey. Predictor variables were chosen using elastic net regularization and k-fold cross-validation to enhance the performance of weighted logistic regression models. Sensitivity analysis underpinned the robustness of the results.

Results: Significant associations emerged between deteriorating oral health and the prevalence of various cardiovascular conditions. An increased likelihood of hypertension was observed in individuals with multiple tooth removals, showing an odds ratio (OR) of 1.67 with a 95% confidence interval (CI) of [1.01-2.77]. The use of dental prosthetics presented an OR of 1.45 [1.20-1.75]. Additionally, presence of gum bleeding corresponded to elevated odds for both cardiovascular disease (OR = 1.69 [1.30-2.21]) and hypercholesterolemia (OR = 1.40 [1.09-1.81]).

Conclusions: enhancing oral health could potentially mitigate chronic cardiac conditions, highlighting the importance of integrating dental care in comprehensive disease management strategies.

Key messages:

- Poor oral health is linked to higher hypertension and heart disease odds.
- Dental care is crucial in cardiac disease prevention and management.

Abstract citation ID: ckae144.1290
Toothbrushing habits are associated with self perceived stress

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Background: Personal self-care is one of the most important factors in maintaining and improving oral health. Public health guidelines are recommending tooth brushing at least twice daily, once before bed time and at least on one occasion. On the other hand, our regular routines and caring for our own health is influenced by different factors including stress. We wanted to research how much does daily stress influencing tooth brushing habits.

Methods: We analyzed data from 2020 CINDI nationwide cross-sectional survey in Slovenia. Tooth brushing once a day or less was assessed as inadequate. Stress was assessed with question >>How often in the last 14 days have you felt tense, stressed or under a lot of pressure? << Participants who chose often or always as an answer were assessed as persons under stress. Method of binary logistic regression was used for statistical analysis of association between tooth brushing frequency and self-perceived stress, modified for some socioeconomic factors.

Results: Prevalence of inadequate frequency of tooth brushing was present in 31,6 % of sample, 31,5% in participants who were not feeling tense and 31,8% in participants who often felt tense or stressed. At first it seemed stress is not associated with tooth brushing habits. We adjusted this association for gender, education level and age and this association became clearer. Participants who felt stress and/or under pressure had higher odds for poor tooth brushing habits, their odds ratio was 1,283 ($p < 0,001$; 95% CI 1,124; 1,464) when adjusted for aforementioned factors.

Conclusions: Oral health is integral part of general health. Association between oral and mental health is often overlooked even though psycho-social aspects are part of modern oral health definition. As personal self-care is cornerstone of maintaining and improving oral health, implementation of mental health aspects should be incorporated in public health advises and programmes for promoting oral health.

Key messages:

- Self-perceived stress is associated with toothbrushing habits.
- People who are under stress less regularly brush their teeth.

Abstract citation ID: ckae144.1291
Type 2 diabetes risk is associated with poorer general health and mental health in women and men

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Background: Increasing evidence points to a relation between cardiometabolic and mental health, but population-based data are scarce. We investigated the association of type 2 diabetes (T2D) risk to general and mental health with a focus on potential differences between women and men.

Methods: The study population comprised 5,192 adults (18+ years) without known diabetes based on data of the German Health Update (GEDA) 2022. T2D risk was assessed by the German Diabetes Risk Score (GDRS), that estimates the 5-year probability of developing T2D and was categorized into low, still low, elevated, and high risk. Sex-specific Poisson regression analyses were conducted including self-rated health (SRH), self-rated mental health (SRMH), depressive symptoms (PHQ-2) and anxiety symptoms (GAD-2) as dichotomous dependent variables and age, educational level, living alone, region of residence, and social support as covariables.

Results: Women had a higher prevalence of low T2D risk (66.1%) and a lower prevalence of high T2D risk (9.4 %) than men (55.3% vs. 16.3%). Compared to those with low T2D risk, women and men with a high T2D risk were less likely to report very good/good SRH (women: prevalence ratio: 0.63; 95% confidence interval: 0.51-0.79; men: 0.69; 0.57-0.84) or excellent/very good SRMH (women: 0.53, 0.39-0.73; men: 0.85, 0.63-1.15). Further, those with a high T2D risk had a higher risk of depressive symptoms (women: 1.71, 1.05-2.81; men: 2.23, 1.22-4.05) and anxiety symptoms (women: 1.84, 1.03-3.29; men: 2.73, 1.09-6.81). No statistically significant interactions between sex and T2D risk were observed regarding the included health outcomes.

Conclusions: A high T2D risk is associated with a lower probability of a favourable SRH and SRMH and a higher risk of depressive and anxiety symptoms in men and women. The underlying mechanisms need further identification, in order to design synergistically beneficial health promotion for cardiometabolic and mental health.

Key messages:

- No sex-specific differences in general and mental health were found in people at high T2D risk.
- Further research is needed to identify the underlying mechanism to improve general and mental health.

Abstract citation ID: ckae144.1292
Prediction of subsequent CKD according to eGFR decline slope varies by the presence of hypertension

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Background: We reported that a declining slope in eGFR evaluated from 3-year observation could predict subsequent CKD among the relatively healthy population, even adjusted for baseline eGFR. However, its certainty may vary depending on the presence of comorbidities such as diabetes and hypertension, which are also recognized as the risk factors of CKD.

Methods: Annual health check-up data from a Japanese company spanning from 2009 to 2022 was used. The analyses included participants having 4 times continuous eGFR measurements for 3 years, undergoing health checkups at least once during a follow-up period, with negative for urinary protein (UP), and non-diabetic. Individual 'eGFR slopes' were calculated by the regression line with 4 times eGFR measurements. Participants with slopes of < -5 per year were categorized as the "decreased" group and -5 or more were categorized as the "stable" group. The cases of positive UP or less than 45mL/min/1.73m2 in eGFR during a follow-up period were defined as CKD. Cox regression analyses adjusted for sex, age, and eGFR at baseline were performed to calculate the hazard ratios and 95% CIs for CKD in the decreased group (reference; stable), stratified by hypertension.

Results: Out of 5598 study participants(men 36%, mean age 48.2± 10.1years, mean follow-up period 4.3 years), 260 CKD cases (4.6%) were observed. CKD cases accounted for 4.5% (235/5218) in the stable group and 6.6% (25/380) in the decreased group. Multivariate-adjusted hazard ratios [95%CIs] of CKD by eGFR decline was 1.50[0.99-2.27]. The eGFR decline increased the risk of CKD only in participants with hypertension (2.09[1.09-4.04]), but not in those without hypertension (1.25[0.73-2.13]). After excluding individuals with eGFR slopes exceeding 10 per year to consider for hyperfiltration of eGFR, the results were consistent.

Conclusions: The eGFR decline over a 3-year observation may predict subsequent CKD only in individuals with hypertension.

Key messages:

- With a relatively short-term evaluation period of three years, eGFR decline can predict subsequent CKD only in hypertensive individuals.
- In middle-aged hypertensive patients, it would be important for the prevention of CKD to pay attention not only to low eGFR but also to the progression of eGFR decline.

Abstract citation ID: ckae144.1293
Living with a chronic disease: tertiary prevention tools in asbestos-exposed patients

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Background: The main asbestos-related pathology is asbestosis, frequently associated with pleural plaques. The spirometric pattern is mainly restrictive, with reduction in all lung volumes (FEV1, FVC, TLC). Also a reduction in alveolus-capillary diffusion of carbon monoxide (DLCO) may be added, related to the fibrotic process. The aim of the study is to analyze the health surveillance data, correlating the spirometric finding and its variation over time with the clinical and radiological picture.

Methods: The study is conducted on 372 patients with asbestosis from occupational exposure diagnosed in the period 2017-2023, as part of the Tuscany Region's program for former asbestos exposures (DGR 396/2016). The investigation is at the second level of surveillance, which includes chest CT and Respiratory Functionality Testing (RFT). Data are obtained from patients' medical records and processed through a database.

Results: Out of 372 patients with asbestosis, 213 had pleural plaques (57.25%). Out of those, there is a progressive worsening of RFTs in a restrictive direction (TLC <80%, FEV1/FVC >70%) in 71 patients (33.3%), with a mean TLC loss of 8.7 ± 5.9 mL over subsequent follow-ups on a yearly basis. The FEV1/FVC ratio also declines, with a mean reduction of 5 ± 2.4%. Out of those 71 patients, 14 (19.7%) also show a mean reduction in DLCO of 6.7 ± 5 mL/min/mmHg. The negative trend in RFTs correlates with the worsening clinical and radiological picture attributable to the occurrence of plaques on a fibrotic framework.

Conclusions: The health surveillance protocol that we adopted has as objective the ascertainment of pulmonary pleura-parenchymal alterations correlated with occupational exposure, investigating their evolution over time through the analysis of spirometric data, and to optimize the management of the functional disability, with a view to the tertiary prevention of patients with asbestos-related disease.

Key messages:

- The negative trend in asbestosis PFRs correlates with the worsening of the clinical and radiological picture attributable to the appearance of pleural plaques on an interstitial fibrosis.
- Health surveillance is essential in order to optimize the management of functional disability, with a view to tertiary prevention of patients with asbestos-related disease.

Abstract citation ID: ckae144.1294
Disability-adjusted life years 19 former socialist economies in the European region, 1990-2019

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Background: Within the Western Balkan Strategic Partnership Project (Work Package 4: Use of Population Health Metrics for Enhanced Surveillance), we conducted a study to describe health progress in 19 former socialist economies (FSEs) in Europe from 1990 to 2019. Our metric of choice was age and sex-standardized rates per 100,000 population of total disability-adjusted life years (ASR-DALY).

Methods: We applied joinpoint regression with extracted ASR-DALY data from the Institute for Health Metrics and Evaluation result tool. The annual per cent change (APC) and average annual per cent change (AAPC) from 1990 to 2019 were analyzed in 19 former socialist economies (FSEs) in Europe, including Albania, Belarus, Bosnia and Herzegovina (BH), Bulgaria, Croatia, Czechia, Estonia, Latvia, Lithuania, Montenegro, North Macedonia, Poland, Moldova, Romania, Russia, Serbia, Slovakia, Slovenia, and Ukraine.

Results: The ASR-DALY decreased in Estonia (APC1994-1997= -5.2%, $p = 0.034$; APC2013-2019= -0.7%, $p = 0.07$), Latvia (APC1994-1997= -6.3%, $p = 0.03$; APC1997-2007= -1%, $p = 0.001$; APC2007-2011= -3.9%, $p = 0.01$), BH (APC1995-1998= -13.3%, $p = 0.041$; APC1998-2019= -0.5%, $p = 0.004$), Bulgaria

(APC1997-2000= -2.5%, p = 0.022), Lithuania (APC2007-2010= -4.9%, p = 0.018), North Macedonia (APC2007-2011= -1.9%, p = 0.023, APC2011-2019= -0.5%, p = 0.005), Czechia (APC2014-2019= -0.6%, p = 0.014), Moldavia (APC1998-2007= -0.6%, p = 0.06), and Ukraine (APC1995-2008= -0.5%, p = 0.035). Slovenia performed the best amongst the FSEs (ASR-DALY2019: 16677.51 for women, 21985.95 for men and 19134.73 for both sexes), Ukraine the worst (ASR-DALY2019: 26154.88 for women, 47983.60 for men and 35852.17 for both sexes).

Conclusions: Except for Ukraine, all FSEs in the European region achieved health improvement. The most common was a three-year decline in ASR-DALY. Health policy changes, investments in health care, and harmonization with EU regulations were among the factors contributing to improved population health in the FSEs.

Key messages:

- Bosnia and Herzegovina is the only FSE in Europe with a continuous 24-year decline in total ASR-DALY.
- Reducing total ASR-DALY significantly in a three-year time frame is possible.

Abstract citation ID: ckae144.1295
Evaluating the feasibility of an Adapted Physical Activity intervention among breast cancer patients

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Adapted physical activity (PA) programs have shown promising results to reduce physical, psychological and social side effects associated with breast cancer (BC), but the extent to which they can be effectively adopted, implemented and maintained is unclear. The aim of this study is to use the RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance) framework to evaluate RIPOSTE (Reconstruction, Image de soi, Posture, Oncologie, Santé, Thérapie, Escrime), an innovative intervention focused on improving the quality of life (QoL) of BC surgery patients through fencing. A convergent mixed-methods pilot study was conducted to evaluate the RE-AIM dimensions of RIPOSTE. 24 participants who have just undergone surgery for invasive BC were randomly allocated either in the "RIPOSTE" group (starting immediately after their inclusion), or the "Delayed RIPOSTE" group (starting at 3 months following their inclusion). They answered to questionnaires at inclusion and at the end of the program on QoL, shoulder functional capacity, fatigue, anxiety-depression and PA. Interviews were conducted with 10 participants, 3 sports physicians and 1 fencing master. RIPOSTE program was able to reach mainly young and dynamic participants, attracted by the originality of fencing and keen to improve their physical condition. Regarding effectiveness, our results suggest a trend to the improvement of health indicators, even without any significant differences between the two groups. The cooperation, exchanges and cohesion within the group greatly facilitated the adoption of the program, whereas interruptions during vacations were the main barriers. Maintenance analyses showed that most participants continued to practice PA after the program. RIPOSTE is an acceptable and effective program for involving BC survivors in PA, that needs to be tested at larger scale to investigate its effectiveness, but has the potential to be transferred and scaled up worldwide.

Key messages:

- These results would help to enrich the literature on how to best intervene to enhance treatment and recovery among patients and facilitate transfer from a research program to a field daily practice.
- By highlighting complexities of RIPOSTE effectiveness and implementation, this study could lead to a more complete program that addresses issues related to improving external and internal validity.

Abstract citation ID: ckae144.1296
Expanding access to non-communicable disease screening in war-affected communities in Ukraine

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Background: Non-communicable diseases (NCDs) account for 91% of premature deaths in Ukraine. However, NCD screening lags among young people and across the entire population. The ongoing war has exacerbated barriers to NCD screening due to damaged infrastructure, understaffed medical facilities, and health system deterioration.

Intervention/response: To improve screening, diagnosis, and care, in March 2023 the PATH-led, USAID-funded Support TB Control Efforts in Ukraine (STBCEU) project established community level health access points (HAPs) in five conflict-affected communities. STBCEU procured screening tools (tannometers, glucometers, portable ECGs) for common NCDs, printed informational materials, trained 143 specialists, designed a reporting system, and facilitated monitoring visits to 77 HAPs.

Results: By the end of 2023, the project equipped 113 HAPs in the five communities, and 102 of them initiated NCD screening. From January-March 2024, 1,694 people under 40 years old were screened for NCDs. Among 1,488 blood pressure measurements, 143 cases had high readings (9.6 ±1.5%), 90 (62.9%) of which were first-time diagnoses, and 53 (37.1%) treatment monitoring. Glucose levels were measured 809 times, with elevated levels in 44 cases (5.4 ± 1.5%), 30 (68.2%) of which were first-time diagnoses, and 14 (31.8%) treatment monitoring. Additionally, 1,144 mental health consultations were provided.

Conclusions: This initiative represented a first in Ukraine: per national requirements, young people have not historically been screened for NCDs. Expanding NCD screening in war-affected communities has demonstrated substantial early success, with significant detection of high blood pressure and elevated glucose levels among people under 40. This proactive, cost-effective intervention underscores the need for accessible, community-level health interventions in crisis settings and showcases a scalable model for integrating NCD screening into emergency health response frameworks.

Key messages:

- The implementation of community-level NCD screening has shown early success in detecting high blood pressure and elevated glucose levels among people under 40.
- Cost-effective NCD screening underscores the need for accessible, community health interventions, providing a scalable model for integrating NCD screening into emergency health response.

Abstract citation ID: ckae144.1297
Physical activity and sedentarism among university students: an approach using a real-life survey

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Background: Evidence shows physical activity (PA) and sedentary behavior (SB) impact health-related outcomes. World Health Organization (WHO) provides PA guidelines for different life stages. A recent study revealed that engaging in SB > 6 hours/day increases all-cause mortality risk. Nevertheless many students spend a significant portion of their daily time on SB and PA levels are insufficient.

Methods: Students were selected by convenience sampling to complete a survey between October-November 2023. A validated PA questionnaire was included including PA Motivations and barriers. PA and SB were classified into 4 levels: Active but sedentary, extremely sedentary, physically active and discreetly active. Data were analyzed using Statistical Package for the Social Sciences (SPSS).

Results: Out of 2,216 surveys 1,648 were women, 568 men and 59.7% were in first university years. In our sample, 12.9% don't do PA. Of those doing PA, 47.1% (n = 1043) don't meet PA recommendations. Regarding SB, 84.7% spend >6 hours/day in SB. When grouped into PA/SB categories 40.5% were extremely sedentary in contrast to 8.8% physically active. Non-university facilities (41.1%) were preferred over university facilities (11.1%). Use of non-university and university facilities correlated with WHO compliance. Main barriers among inactive students were lack of time (48%) and lack of a workout partner (18.6%).

Conclusions: Most students don't meet WHO guidelines. Less than 10% are considered active, while 40.5% are extremely sedentary. University sports facilities are underused even if linked to better compliance. To promote facilities as health-promoting spaces and investigate reasons for their underuse is necessary. Lack of company as a reason for not engaging in PA points out the need to strength university sports communities.

Key messages:

- Although many students exercise, the majority do no meet World Health Organization recommendations.
- We must intensify university programs to promote physical activity and reduce sedentary behavior.

Abstract citation ID: ckae144.1298
Traditional medicine use to manage hypercholesterolemia, hyperglycaemia and hypertension in Ecuador

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Background: Although the use of traditional medicine (TM) to manage health issues is frequently reported, clinical guidelines often overlook this practice. This study aimed to describe the frequency of TM use to control 3 cardiometabolic risk factors for non-communicable diseases (arterial hypertension, hypercholesterolemia, and hyperglycaemia, collectively referred to as CMRF here); and associated sociodemographic, economic, and clinical characteristics.

Methods: Descriptive cross-sectional study with a representative population of two health districts in Ecuador, one urban in southern Quito and one in a forested rural area with diverse ethnic groups in Esmeraldas. We included 602 individuals with at least one CMRF and calculated the proportion of those who reported regular use of TM (herbal or traditional remedies) to control their CMRF. We used a multivariable logistic regression model to calculate Odds Ratios for TM use according to sociodemographic, economic, and clinical characteristics.

Results: TM was commonly used to control CMRF in both sociocultural contexts (39.4% Esmeraldas, 31.1% Quito), often in combination with conventional medicine (CM). A notable percentage of people (33.9% Esmeraldas, 39.0% Quito) did not take any treatment for their CMRF, and the rest used CM alone. In both settings, education was significantly associated with TM use. While in Quito people with higher education were more likely to use TM (aOR 2.04, 95%CI 1.03-3.90), in Esmeraldas, it was more common among people without formal schooling (aOR 3.76; 95%CI 1.59-8.88) as well as those of younger age (aOR per year 0.97; 95%CI 0.95-0.99) and from Afro-Ecudorian ethnicity (aOR 2.13; 95%CI 1.02-4.45).

Conclusions: Traditional medicine is used by a significant portion of Ecuador's population, highlighting the need for a more accessible and intercultural approach to healthcare.

Key messages:

- The use of traditional medicine to address hypertension, hypercholesterolemia, and hyperglycaemia appears to be widespread in different sociocultural and economic contexts of Ecuador.
- To promote intercultural health, understanding the diverse sociocultural patterns associated with the use of traditional medicine, often combined with conventional medicine, is crucial.

Abstract citation ID: ckae144.1299
Gut Microbiota and Parkinson's disease - a prospective analysis of the FINRISK 2002 Study

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Background: Parkinson's disease (PD) is a neurodegenerative movement disorder with mainly unknown etiology. Constipation is a common symptom, and changes in gut microbiota may play role in PD pathogenesis. Previous studies exploring microbial associations to PD have been mostly cross-sectional, and the role of microorganisms in PD etiology remains unclear. Thus, we examined the association between microbiota features and incident PD in a prospective cohort design.

Methods: In the FINRISK 2002 Study, 7231 participants gave a stool sample that underwent shotgun metagenomic sequencing. Participants with missing stool sample, incomplete covariate data, pregnancy, antibiotic use, and prevalent cases were excluded (final n = 5562). Cox regression models, adjusted for age, sex, education, smoking, coffee consumption, diabetes, cardiovascular events, and constipation, were used to assess associations between incident PD and microbiota features, ie. alpha diversity (the number of different species present in a sample), beta diversity (the differences in microbial composition between individuals), and abundance of 381 core taxa (compositional detection rate of at least 0.1% and a prevalence of 1%). 120 incident cases of PD, identified through register linkage, occurred during a median follow-up of 17.8 years.

Results: In the multivariate models, PD incidence was not associated with the Shannon index, a measure on alpha diversity, (p-value 0.81), or with the ten first principal component axes in beta diversity analysis (p-values ranging between 0.49-0.91). In permutational analysis, PD did not explain differences in the composition of the gut microbiota (R2 <0.001, p-value 0.46)). None of the core species were associated with PD incidence (all FDR-corrected p-values > 0.05).

Conclusions: This prospective study showed no support for an association between gut microbiota features and incident PD.

Key messages:

- Previous findings associating gut microbiota with PD may be due to the cross-sectional design, ie. PD affecting the gut microbiota.
- Suggestions to screen gut bacteria to identify people at high risk of Parkinson's disease are vastly premature as the scientific evidence is inconclusive.

Abstract citation ID: ckae144.1300
Factors associated with type 2 diabetes control in hard-to-reach communities in Esmeraldas, Ecuador

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Background: The rising prevalence of type 2 diabetes mellitus (T2DM) and its detrimental effects on population health make it an urgent public health concern. Maintaining blood glucose control is crucial for avoiding complications; however, there are notable socioeconomic disparities in disease management, especially in low- and middle-income settings. We aimed to examine the factors associated with controlled fasting capillary glucose in a difficult-to-access rural setting of Esmeraldas, Ecuador, and to examine the role of social support in this context.

Methods: Between October 2020 and May 2022, we conducted a cross-sectional study of T2DM adult patients in Esmeraldas' Eloy Alfaro health district. We collected data on socio-demographic and clinical patient characteristics using a questionnaire and measured Fasting Capillary Blood Glucose levels. We estimated the prevalence of controlled glycaemia and used logistic regression to calculate odds ratios (OR) with 95% confidence intervals.

Results: Only 18.1% (95%CI: 14.9-21.8) of the 476 study participants had controlled glucose levels, with a significantly higher percentage in men (28.2%) compared to women (13.8%). Participants reported moderate perceived social support (median=2.33, on a scale of 1 to 4), without significant impact on glycaemic control. Women in urbanised areas were more likely to have controlled glucose levels compared to those in rural areas (aOR=2.34, 95%CI: 1.23-4.44) after adjusting for family support. In contrast, unemployed and older men had non-significant trends towards better odds of achieving controlled fasting glycaemia.

Conclusions: The complex interplay of factors affecting diabetes management and glycaemic control highlights the need for targeted, context and gender-specific public health strategies to address diabetes disparities in vulnerable populations.

Key messages:

- The majority of individuals with T2DM residing in the remote communities of Eloy Alfaro district in Esmeraldas (Ecuador) have uncontrolled glycaemia, showing notable gender-specific disparities.
- Participants reported a moderate level of social support, with family as the most important source. Yet, this perceived support may not effectively overcome contextual barriers in T2DM management.

Abstract citation ID: ckae144.1301
Impact of Multiple Sclerosis on different life dimensions among working women in Sweden

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Introduction: Multiple sclerosis (MS), like many other chronic diseases, may impact the whole life situation. MS is more common among women than men, in addition, women tend to report worse health status. We aimed to explore the self-reported impact of MS on different dimensions of life such as work, family, leisure activities and, contact with friends and acquaintances.

Methods: All individuals 20-50 years of age listed in the Swedish MS Registry were invited to answer a survey in 2021. Responses from 2659 working women regarding impact of MS in different dimensions (1, not at all; 2-3, occasionally; 4-5, frequently; 6-7 to a high extend) were explored with descriptive statistics.

Results: Reported impact of MS varied across the different life dimensions. Working women reported that MS had a greater impact on their leisure activities (20.7% - responding to 'to a high extent'), followed by contact with friends and acquaintances (15.8%), work (15.5%) and family (11.7%). This despite the fact that 77.1% had mild levels of disability. Further, the MS diagnosis was reported to have contributed to reduced working time (31.4%), refrained from changing job (28.8%), changed jobs (20.5%) or changed career track (20.4%). When questioned about positive life-changing experiences due to MS diagnosis, a majority of the women stated that it had contributed to learning how to adapt to things one cannot change (59.2%) and being grateful for everyday (51.7%).

Conclusions: An MS diagnosis can significantly impact various aspects of life. While work is notably affected, leisure activities also undergo substantial changes after MS diagnosis. However, acceptance, adaptability and finding meaning, among other, can be important parts of the journey.

Key messages:

- At early stages of MS, the disease tend to affect leisure activities more than other dimensions of life.
- Finding coping mechanisms to handle MS may contribute to compensate the impact of MS.

Abstract citation ID: ckae144.1302
The Association between Social Capital, Food Security, and Type 2 Diabetes Management

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Background: Given nutrition's key role in treating diabetes, food insecurity may seriously affect the standard management of the disease. A patient's social environment or community plays an important role in managing the disease. This study explores how food security and social capital are associated with the management of type 2 diabetes.

Methods: A cross-sectional telephone survey of 381 Israelis Jewish and Arab with type 2 diabetes was conducted. Data was collected on food security, social capital, disease management factors, and socioeconomic status. Moreover, medical records provided information about HbA1c, age, and disease diagnosis date for each respondent.

Results: Blood glucose balance (HbA1c $\leq$7mmol/mol) was associated with employment, while unemployed respondents had a better balance. Food security is correlated with health perception - the better the food security, the better the health perception. Food security is related to social and family support, as well as to neighborhood help and connections. The social capital index increases as food security increases. A higher disease management index score, as well as a higher trust index score, indicates a more balanced patient. In light of the fact that food security is associated with social aspects of health, it may act as a mediator between social capital and perceived health.

Conclusions: Social factors directly affect the balance of the disease. Subjective health and gender were associated with food security. Social capital and support are linked to subjective health reporting through food security, so this variable is a mediator. It can be concluded that social factors and food security play a role in subjective health assessment in diabetics. Diabetes management and balancing depend not only on behavioral factors but also on environmental and social factors.

Key messages:

- Food security is a necessary factor in balancing blood glucose levels, as well as a mediator factor between social capital and perceived health among diabetics.
- A balanced diabetes requires social support, such as a supportive social environment and must consider the individual's character.

Abstract citation ID: ckae144.1303

Mortality and causes of death in Serbia: redistribution of garbage codes to ischemic heart disease

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Background: Cardiovascular diseases are ranked as the number one cause of death in Serbia, and one-fifth of them present ischemic heart disease (IHD). However, the physicians certifying the cause of death have either not been adequately involved in how to complete a death certificate according to the current International Statistical Classification of Diseases (ICD-10) or due to a high level of administrative tasks sometimes fail to complete the process of death certification. That is why we aimed to investigate the garbage codes (GCs) and the effects of their redistribution on underlying cause of death (CoD) estimates for IHD for 2015 and 2020.

Methods: Data from Belgrade mortality statistics in 2015 and 2020 were used to describe the occurrence and redistribution of garbage codes (GCs), defined as unspecified or impossible causes of death. In order to redistribute GCs we observed the underlying, antecedent, immediate causes and other conditions that contributed to deaths. Redistribution was done by consulting GBD methodology for GC proportional redistribution. The ICD-10 code range for IHD is I20-I25.

Results: In Belgrade, 17% (4022/23663) and 20.9% (5818/27775) of the deaths were coded with a garbage code in 2015 and 2020, respectively. In 2015, 2102 deaths (10.7% of all well-defined CoD) were attributed to IHD, while in 2020, 1806 (8,2% of all well-defined CoD) deaths were attributed to IHD. Finally, we redistributed a total of 452 deaths (GC type 1 203.9, GC type 2 122.1 and GC type 3 126.2 deaths) and 572 deaths (GC type 1 250.1, GC type 2 110.9, GC type 3 210.7 and GC type 4 22) due to IHD in 2015 and 2020, respectively. These calculations indicate a total number of 2554 and 2378 deaths due to IHD in 2015 and 2020, respectively.

Conclusions: A more detailed analysis of local practices, as well as continuing medical education in the field of death certification, could be a step forward in the future process of decreasing the number of GCs.

Key messages:

- Since the huge number of deaths was added to ischemic heart disease in 2015 and 2020, it is crucial to focus on a more reliable disease surveillance system including better coding practices.
- A deep understanding of the garbage codes and their redistribution could significantly shape future decisions on factors contributing to ischemic heart diseases.

Abstract citation ID: ckae144.1304

Overdiagnosis for screen-detected prostate cancer incorporating patient comorbidities

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Background: Evidence regarding the likelihood of overdiagnosis in prostate cancer (CaP) screening with PSA are mainly based on clinical trials, which include younger population with fewer comorbidities than those receiving the test in clinical practice. We aimed to assess the likelihood of overdiagnosis and associated variables using real-world data.

Methods: Retrospective cohort of men >40 years with PCa, who had been diagnosed being asymptomatic and after a positive PSA test in the previous 12 months in two hospitals (2004-2022). The probability of overdiagnosis was estimated considering the life expectancy of the Spanish male in the year 2022 and the Charlson Comorbidity Index (lead time 10 years). PSA values and Gleason score were included as independent variables.

Results: Of the 2,331 patients in the cohort, 1,070 (46%) met the inclusion criteria for this analysis. The median follow-up time was 5.7 years (IQR 3.2-8.6). The median age was 71 years (IQR 65-78) and 37% had more than one comorbidity. At diagnosis, the median life expectancy was 12 years (IQR 4-18) and the probability of overdiagnosis was 30.8% (IQR 17.6-52.4). Patients with PSA levels >10 mg/dl tended to be older and with more comorbidities than those with PSA levels 4-10 mg/dl, and thus, with shorter life expectancy. The median probability of overdiagnosis was higher in patients with PSA levels >10 mg/dl (41.4%, IQR 21.5-73.9) than in those with PSA levels 4-10 mg/dl (20.1%, IQR 12.8-30.4), $p < 0.001$. Correspondingly, patients with Gleason score ≥ 8 were more likely to be overdiagnosed (median 42.6%, IQR 23.6-68.6) than those with Gleason score ≤ 6 (median 20.1%, IQR 12.8-30.4) ($p < 0.001$).

Conclusions: In clinical practice, older patients with comorbidities showed high PSA levels and Gleason score ≥ 8, presenting low life expectancy at diagnosis and, therefore, high probability of overdiagnosis. This highlights the importance of considering the patient's comorbidities when ordering a new PSA test.

Key messages:

- A detailed assessment of the prevalence of comorbidities among CaP patients in real-life settings has significant implications for patient management.
- The decision to make an early diagnosis should be based on individual life expectancy, where comorbidity is at least as important as age.

Abstract citation ID: ckae144.1305
Impact of Noncommunicable Diseases on Years of Life Lost in FB&H During the COVID-19 Pandemic

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This study aims to comprehensively investigate the impact of noncommunicable diseases (NCDs) on years of life lost (YLL) within the Federation of Bosnia and Herzegovina (FB&H) across distinct phases: pre-pandemic, pandemic, and post-pandemic periods. Given that NCDs currently represent more than half of the global disease burden, our focus lies in assessing YLL specifically for cerebral infarction (I63-I64) and diabetes mellitus (E10-E14). Conducting a retrospective data analysis, we utilized mortality data sourced from the Institute for Statistics of FB&H to quantify YLL. This assessment involved multiplying age-specific mortality figures by the remaining life expectancy at the corresponding age, utilizing the GBD 2019 life expectancy table. Examining the period between 2019 and 2022, our analysis aimed to elucidate the pandemic's potential influence on NCD burden, through the examination of age-standardized YLL rates based on the world standard population. In 2019, YLL attributable to I63-I64 for both sexes totaled 41,244 in 2019, escalating to 44,790 in 2020, and subsequently decreasing to 39,439 and 32,055 in the pandemic years of 2021 and 2022, respectively. For diabetes mellitus (E10-E14), YLL in 2019 amounted to 23,675, with figures for 2020, 2021, and 2022 standing retrospectively at 24,329, 24,114, 19,125. The increase in 2020 may be attributed, in part, to initial healthcare hesitancy during the pandemic's onset, leading to delayed treatment and heightened mortality rates. Furthermore, patients who died in 2020 from C-19 without being tested may have skewed mortality registration by inflating rates attributed to pre-existing conditions. The declining rates thereafter could be due to a harvesting pandemic effect, in that people who were previously ill died prematurely from C-19. These insights show the pandemic's profound impact on NCD-related mortality, underscoring the urgent need for targeted interventions and healthcare strategies.

Key messages:

- A substantial reduction in years of life lost (YLL) related to certain noncommunicable diseases was observed during the pandemic.
- The pandemic significantly influenced mortality among individuals with noncommunicable diseases, driven partly by healthcare hesitancy and potential misregistration of causes of death.

Abstract citation ID: ckae144.1306
Mortality due to ischemic stroke in Serbia after redistribution of the inaccurately coded deaths

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Background: Ischemic stroke is a major common cause of death not only in Serbia but worldwide. Mortality statistics commonly include ill-defined, impossible and insufficiently specified causes of death among the underlying causes of death (CoDs). In the activities of the Laboratory for Strengthening the Capacity and Performance of the Health System and Workforce for Health Equity, we examined mortality due to ischemic stroke either as well-defined underlying CoDs or garbage codes (GCs - including the ill-defined, unspecified or impossible CoDs) in Belgrade in 2015 and 2020.

Methods: Anonymous mortality data of the City Institute of Public Health Belgrade were analyzed, and the GCs were redistributed to ischemic stroke as underlying CoDs (ICD-10 codes I63-I63.9), based on the principles of the Global Burden of Disease study, using the three-step approach: 1) exploration and analysis of GCs; 2) modelling of the underlying, antecedent and immediate causes of death; 3) proportionate redistribution.

Results: 17% of the total of all deaths in Belgrade in 2015 and 20.9% in 2020 were GCs. Before the redistribution, the share of ischemic stroke as the well-coded CoDs of total mortality was 7.3% (1443/19641) in 2015 and 4.6% (1022/21957) in 2020. A total of GCs - 309 deaths in 2015 and 322 in 2020 were identified for redistribution to ischemic stroke. Based on the type of GCs, in 2015, a total of 139 cases were redistributed in type 1 GCs, 83 in type 2 GCs and 87 in type 3 GCs. In 2020, 141 cases were redistributed due to type 1 GCs, 62 type 2 GCs and 119 type 3 GCs.

Conclusions: This study underscores the significant proportion of all ischemic deaths in Belgrade that were coded with the GCs. After the redistribution, almost one-fifth of the ischemic strokes, previously known as GCs, were added, emphasizing the crucial role of accurate coding in understanding mortality patterns. Improving the coding of deaths is necessary to have reliable information for health policymaking.

Key messages:

- One-fifth of the ischemic strokes in Belgrade were previously GCs.
- Accurate coding is essential for understanding mortality patterns and developing valid health policies.

Abstract citation ID: ckae144.1307
Seasonal Variation in Vascular Dehydration Risk: Insights from the KOBE Study

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Objectives: Dehydration, a risk factor for ischemic cerebrovascular diseases, is common in summer; however, the incidence of ischemic diseases is not necessarily higher in summer. The phenomenon may be influenced by the differences in the susceptibility to vascular dehydration based on the season. Therefore, this study aimed to distinguish types of dehydration in colder and warmer seasons by analyzing serum osmolarity, hematocrit, and daily non-alcohol drink (NAD) intake.

Methods: Participants in the Kobe Orthopedic and Biomedical Epidemiologic (KOBE) Study, consisting of healthy individuals, were categorized into two groups based on the examination month: the warmer and colder seasons. Multivariate analyses were conducted to examine disparities in serum osmolarity, hematocrit, and NAD intake between these two groups.

Results: Participant ratios by age group and the seasons (warmer season/colder season) were as follows: Women under 50 (35/62), 50-60 (77/126), 60-70 (123/170), over 70 (58/52); Men under 50 (14/17), 50-60 (22/36), 60-70 (57/71), over 70 (55/34). The colder season was found to be negatively correlated with serum osmolarity and NAD intake, but positively correlated with hematocrit, even after adjusting for relevant factors. Age was independently associated with serum osmolarity, but not with hematocrit and NAD intake.

Conclusions: This study highlights that vascular dehydration is more likely in the colder season despite lower serum osmolarity than the warmer season. Age-related increases in serum osmolarity without a corresponding rise in water intake may contribute to this. These findings emphasize the importance of addressing dehydration in the colder season, particularly in older adults.

Key messages:

- The colder season showed a negative correlation with serum osmolarity and NAD intake but a positive correlation with hematocrit.
- Raising awareness about the importance of hydration during winter may be essential.

Abstract citation ID: ckae144.1308
Work and disability benefit unraveled in chronic gastrointestinal patients

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Background: Persons with a chronic disease, such as chronic gastrointestinal and hepato-pancreatico-biliary (GI-HPB) disease, have a lower work participation (WP) than the healthy population. Instead, they might receive a disability benefit (DB). Positive Health (PH) is a newly developed, holistic view of health and comprises six dimensions: bodily functions, mental well-being, meaningfulness, quality of life, participation, and daily functioning. In this study we aim to determine whether the dimensions of PH relate to WP and DB in persons with GI-HPB.

Methods: GI-HPB patients attending the outpatient clinic of the Maastricht University Medical Center between 2019-2021 received validated questionnaires (Gastrointestinal Symptom Rating Scale, Short Nutritional Assessment Questionnaire, Patient Health Questionnaire-9, Generalized Anxiety Disorder-7, Short Form-36, Disease Experience Questionnaire, EuroQol-5D-5L) and items regarding WP and DB. The relation between the six dimensions of PH, and WP and DB, were tested with univariate and multivariate statistics.

Results: 448 patients (Mage = 45 years; 69% female) were included. Univariate analysis revealed that, except for meaningfulness, all dimensions were significantly associated with WP ($p \leq .02$) and DB ($p \leq .005$). In multivariate analyses, lower age ($p = .010$), better general health ($p = .044$) and better physical functioning ($p < .001$) related to WP. Higher age ($p = .002$) and lower physical functioning ($p = .011$) related to DB.

Conclusions: Among GI-HPB patients, physical functioning related to both WP and DB. The chance of working was higher among younger patients and those with better general health while those with a higher age received DB more often. The PH concept was only partially relevant to work status and DB.

Key messages:

- Within the dimensions of Positive health, work participation was associated with a lower age, a better general health and a better physical functioning.
- Within the dimensions of Positive health, disability benefit was associated with higher age and lower physical functioning.

Abstract citation ID: ckae144.1309
Colorectal screening program implementation in primary health care, in Loures-Odivelas, Portugal

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Problem: In 2020, Portugal had the highest cumulative incidence of colorectal cancer (CRC) in the European Union (103 new cases/100,000 inhabitants). The Colorectal Cancer Screening Program (CRCS) is based on fecal occult blood testing (FOBT) as the primary screening method. With the delivery of the stool sample collection device; instruction on its use is provided by the Primary Health Care team. The sample is processed at the Clinical Pathology laboratory of the Hospital Center (HC). In case of a positive result, the general practitioner communicates the result and refers the individual to the Follow-up and Treatment Center.

Description: The general objective of this project was to implement the CRCS in the 19 Family Health Units (FHU) of Loures-Odivelas Health Center Group, between September 2022 and April 2023. The following activities were carried out: 1. Sessions to present the patient pathway, record platform, and stool sample collection device; 2. Application of a checklist of essential points for the start of screening; 3. Preparation and dissemination of monitoring reports to the FHU; 4. Follow-up visits to clarify doubts.

Results: By March 2023, CRCS had been implemented in 15 of the 19 FHU (79%). Between September 2022 and March 2023, 1,430 devices were delivered and 959 FOBT samples were received (67%). Among the devices received with biological samples, it was not possible to issue a result for 5%.

Lessons: The activities carried out allowed for the initiation of CRCS in most FHU. The involvement of professionals in these activities contributes to increased patient adherence and proper collection technique, reducing inconclusive FOBT results. It is necessary to continue this strategy of personalized support for the FHU to consolidate the implementation of CRCS in LO HCG. Ensuring that the

necessary materials are available and that result issuance and referral deadlines are met are important factors for maintaining professional motivation.

Key messages:

- The objective was to implement the Colorectal Cancer Screening Program (CRCS) in 19 Family Health Units (FHU) in Loures-Odivelas. By March 2023, CRCS had been implemented in 15 of 19 FHU (79%).
- It is important to continue these activities in order to put into operation the CRCS in all FHU and to tackle the problem of colorectal cancer.

Abstract citation ID: ckae144.1310
Measurability of overall health in patients with chronic gastrointestinal disorders

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Background: Chronic gastrointestinal and hepato-pancreatico-biliary (GI-HPB) patients experience problems in all life areas. The Positive health (PH) concept, based on six different dimensions of health, may hold the answers for a broader understanding of the patients' well-being.

Aim: To measure the overall health status of GI-HPB patients, according to the PH concept.

Methods: In 2019-2021, patients with GI-HPB attending the outpatient clinic of the Maastricht University Medical Center filled in questionnaires before consultation. The six dimensions of PH (bodily functions, mental well-being, meaningfulness, quality of life, participation, daily functioning) were measured by validated questionnaires (Gastrointestinal Symptom Rating Scale, Short Nutritional Assessment Questionnaire, Patient Health Questionnaire-9, Generalized Anxiety Disorder-7, Short Form-36, Disease Experience Questionnaire, EuroQol-5D-5L). Results were compared to control groups and assessed with McDonald's Omega, Zero-order Pearson correlations, and t-tests.

Results: The 235 participating patients scored lower on quality of life, participation, and daily functioning than healthy controls ($p \leq 0.001$) but similar to those with other chronic conditions. Malnutrition (moderate-severe 45.6%) and depressive/anxious symptoms (35%/21.6%) were higher in the GI-HPB group compared to those with other chronic conditions.

Conclusions: Validated questionnaires addressing the six dimensions of PH showed a significant worse health status compared to controls, and malnutrition and depressive symptoms were higher compared to other patient groups.

Key messages:

- GI-HPB patients have a lower quality of life, participate less, and have less daily functioning than healthy controls and higher malnutrition and depression than those with other chronic diseases.
- By using validated questionnaires, an impression of the overall health status of patients can be obtained through the concept of Positive Health.

Abstract citation ID: ckae144.1311
Social inequalities in cancer incidence, survival and mortality: An umbrella review

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Background: An increasing number of systematic reviews investigating differences in cancer burden by social factors such as race, ethnicity, and socioeconomic status have been published in recent years. Our study aims to evaluate the strength and quality of evidence from systematic reviews investigating associations between social factors and cancer incidence, survival, and mortality to help policy-makers reduce existing social inequalities in the burden of cancer.

Methods: Our study is a pre-registered umbrella review (PROSPERO; CRD42024552884). We systematically searched Medline, Scopus, Web of Science, CINAHL, PsycINFO, the Cochrane Library, the JBI EBP database, and Epistemonikos without date restrictions for published systematic reviews with or without meta-analyses on June 17, 2024. The search identified 15,542 records, which were reduced to 7,421 after deduplication. We are currently screening studies to include systematic reviews of cohort or case-control studies that examined associations between one or more social factors (gender, race/ethnicity, education, occupation, socioeconomic status, place of residence, religion, social capital) and cancer outcomes. Study screening, data extraction, and quality appraisal will be done in duplicate using pre-piloted forms. The strength of evidence of reported associations between social factors and cancer outcomes will be assessed using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) criteria. Before data synthesis, we will assess the degree of overlap between primary studies in the eligible reviews by creating citation matrices and calculating corrected covered area indices. Following this, we will narratively summarize associations (for systematic reviews without meta-analyses) and pool the risk estimates for individual social factors and cancer outcomes (for reviews with meta-analyses) using random-effects meta-analysis models. We will have preliminary results ready by November 2024.

Key messages:

- Our umbrella review aims to evaluate the strength and quality of evidence from systematic reviews which have examined social inequalities in cancer incidence, survival, and mortality.
- This high-level evidence synthesis can help policy-makers better plan and target interventions to reduce the existing social inequalities in the burden of cancer.

Abstract citation ID: ckae144.1312
Serum circulating liver enzymes and human diseases

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Background: This study aimed to comprehensively investigate the observational and Mendelian randomization (MR) associations between liver enzymes (ALP, ALT, AST and GGT) with a wide spectrum of human diseases.

Methods: UK Biobank data was used for observational analysis. Cox proportional hazard models were used to quantify the observational associations between liver enzymes and risks of 1109 diseases, adjusted for covariates. A correction was applied to allow for multiple comparisons. Two-sample MR was performed to replicate the identified observational associations. We assessed the strength, consistency and pleiotropy of these MR associations.

Results: In 438571 participants with a median 12.4 years of follow-up, we found evidence linking liver enzymes and 654 diseases, 254 of which were further assessed in subsequent MR. In MR, 52 associations were replicated (10 for ALP, 14 for ALT, 10 for AST and 18 for GGT). Specifically, ALT was associated with liver conditions, diabetes, abnormal bleeding from the female genital tract, and prostate cancer. AST showed associations with prostate cancer, anxiety, diabetic neuropathy, and stroke. GGT was linked to hepatic and biliary conditions, coronary atherosclerosis, and pneumonia, while ALP displayed positive associations with vitamin D-calcium-parathyroid-bone conditions.

Conclusions: Elevated liver enzymes are risk factors for a wide range of hepatic and extrahepatic diseases, predominantly digestive, circulatory, metabolic/endocrine (including diabetes) diseases. Furthermore, the four liver enzymes demonstrated distinct patterns of disease associations.

Key messages:

- Elevated liver enzymes are risk factors for a wide range of hepatic and extrahepatic diseases.
- The four liver enzymes demonstrated distinct patterns of disease associations.

Abstract citation ID: ckae144.1313
Adult Individuals Applicable to the Family Health Center Knowledge and Awareness About Osteoporosis

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Background: The aim of this study is to determine the knowledge and awareness of adult individuals applying to the Family Health Center (FHC) about osteoporosis.

Methods: A descriptive design study was conducted at a FHC in Turkey/Istanbul between January and May 2022. The sample of the research consisted of 320 adults selected by purposeful sampling method. Ethical approval and necessary permissions were obtained from the the conduct of the study. Data were collected through a socio-demographic characteristics form, a 20-item single-subscale Osteoporosis Knowledge Assessment Questionnaire (OKAQ), and a 27-item Osteoporosis Awareness Scale (OAS). Descriptive statistics, normality tests, analysis of variance, Kruskal-Wallis analysis of variance, t-test, and Mann-Whitney U test were used for data analysis. Statistical significance was accepted at $p < 0.05$.

Results: T The average age of adults is 60.47±13.17 and 55.9% are female and 44.1% are male. 34.7% had completed middle school. Participants' highest correct response rate in the osteoporosis knowledge assessment questionnaire was for the item 'Osteoporosis increases the risk of bone fracture' (81.6%), while the lowest correct response rate was for the item 'Osteoporosis generally causes symptoms (such as pain) before fractures occur' (26.3%). According to the Osteoporosis Awareness Scale, adults' awareness levels were above average. They scored the highest in the preventive behaviors subscale and the lowest in the risk factors subscale. Adults with university-level education scored significantly higher in all subscales of the OAS compared to other education levels ($p < 0.05$). Individuals with knowledge about osteoporosis and those who consumed milk regularly scored significantly higher in all subscales of the OAS ($p < 0.05$).

Conclusions: Although adults' awareness of osteoporosis is above average, their correct knowledge about osteoporosis is inadequate.

Key messages:

- An individual's education level affects osteoporosis knowledge and awareness.
- It is recommended to plan educational initiatives to increase osteoporosis knowledge and awareness.

Abstract citation ID: ckae144.1314
The burden of psoriasis in Belgium, 2021

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Psoriasis is a common, chronic, inflammatory skin disease with a great impact on healthcare systems. Given the limitations of the currently available burden estimates, estimates of the Belgian national burden of disease study are necessary in order to guide decision-making processes within the health sector. According to the Global Psoriasis Atlas, the prevalence of psoriasis is rising globally. The current study aims to estimate the burden of psoriasis in Belgium using national data. As there is no single comprehensive data source on prevalence of psoriasis in Belgium, a critical appraisal of existing local and national data sources was conducted. We estimated the non-fatal psoriasis burden in terms of years lived with disability (YLD). Estimated prevalence data were combined with disability weights to yield YLDs imposed by psoriasis. Mortality attributable to psoriasis was assumed to be zero, in line with the Global Burden of Disease study (GBD) 2019. We assessed three data sources containing information on existing cases with psoriasis in Belgium. Based on qualitative and quantitative appraisal, a wide-spread network of general practitioners was identified as the best available national data source. In 2021, the prevalence of psoriasis in Belgium was 2.1%, leading to 13084 DALYs (113 DALYs per 100 000). The burden of psoriasis was in line with national disease burden estimates for bipolar disorder, multiple myeloma, and hearing loss. Our prevalence, YLD, and DALY estimates for psoriasis in Belgium were however lower than those of the GBD study. Psoriasis imposes a non-negligible burden on population health in Belgium, despite it not being a cause of death. Along progression in psoriasis management, objective evaluation of psoriasis burden is critical to track the trends at the population level.

Key messages:

- Psoriasis is a common skin disease with a relatively high morbidity burden.
- Information on psoriasis prevalence and burden are crucial for disease management and appropriate health-care planning.

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Burden of inflammatory bowel disease in Belgium, 2020

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Inflammatory bowel disease (IBD) comprises digestive disorders resulting from non-infectious inflammation of the colon and gastrointestinal tract. With its global prevalence on the rise, IBD poses significant challenges to healthcare systems. There is a need for more accurate disease burden estimates to guide decision-making processes within the health sector. As a part of the Belgian national burden of disease study (BeBOD), this study aims to estimate the burden of IBD in Belgium based on locally available data. We estimated the Belgian IBD burden in 2020 in terms of mortality, prevalence, years of life lost (YLLs) due to premature death, years lived with disability (YLDs), and disability-adjusted life years (DALYs). As there is no single comprehensive data source on prevalence of IBD in Belgium, a critical appraisal of existing local and national data sources was conducted. Prevalence data were combined with disability weights to yield YLDs. YLLs were calculated using the most recent Global Burden of Disease (GBD) 2019 reference life table and the number of deaths caused by non-infective IBD (ICD-10 K50-52). Cause of death data were extracted from Statbel, the Belgian statistical office. The best available data source to estimate the IBD prevalence in Belgium was a widespread network of general practitioners. The prevalence of IBD was 1.5% in 2020. The prevalence-based YLD for IBD was 220 YLDs per 100 000, while the YLL rate was 11.5 per 100 000. We estimated 26 276 DALYs caused by IBD in 2020. Of the total DALYs caused by IBD, 5% were due to YLLs and 95% were due to YLDs. Our burden estimates for IBD in Belgium were however higher than those of the GBD study. IBD imposes a low fatal burden, whereas the burden of morbidity is more prominent. Our findings could be useful for policy makers to justify and prioritize resource allocation. Integrating the current research in BeBOD will allow monitoring the burden of IBD over time.

Key messages:

- Inflammatory bowel disease is characterized by a substantial non-fatal burden due to chronic relapsing and persistent symptoms.
- National inflammatory bowel disease burden estimates are useful to guide decision-making within the health sector.

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Tobacco and nicotine products use among adolescents in Serbia – Latent class analysis

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Background: In parallel with a decline in cigarette smoking in the previous decade, other tobacco and nicotine products (TNPs), that are often used concurrently, have gained popularity among adolescents. The purpose of this study was to identify patterns of tobacco and nicotine product use among Serbian adolescents.

Methods: Data for this study were obtained from Health Behavior in School-aged Children (HBSC), a WHO collaborative cross-national study of adolescent health and well-being, that was conducted in Serbia in 2022 on a sample of 3713 students 11,13 and 15 years old. Descriptive statistics was used as well as latent class analysis to classify students based on their past-month use of cigarettes, e-cigarettes, heated tobacco products, waterpipes, and oral tobacco/nicotine products.

Results: Among students 11,13 and 15 years old, 10.2% smoke cigarettes, 13% use e-cigarettes, 11.1% waterpipes, 3.7% oral tobacco/nicotine products, and 4.5% heated tobacco products with differences by age and sex. We found high percentages of dual use of TNPs among cigarette smokers. Among students who smoke cigarettes, 61.6% also use e-cigarettes, 36.2% smoke waterpipes, 30.2% heated tobacco products, and 24.1% oral tobacco/nicotine products. Latent class analysis identified three classes as optimal solution: (1) dual e-cigarette and cigarette users (6.9%); (2) minimal/non-users (83.2%) and (3) poly tobacco and nicotine products users (9.9%). Statistically significant differences between classes were found in age and sex.

Conclusions: Dual and poly-tobacco and nicotine use is common among Serbian adolescents and presents a challenge for monitoring and public health response. Findings contribute to a better understanding of patterns and heterogeneity of TNPs use among adolescents and might have implications for prevention and cessation interventions for youth.

Key messages:

- Among students 11,13 and 15 years old, tobacco and nicotine products, other than cigarettes is gaining popularity and with the e-cigarettes being the most popular product.
- Dual and poly tobacco and nicotine products use is new challenged that should be taken into account in tobacco and nicotine monitoring, cessation and prevention.

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Utilization and subjective effectiveness of post-COVID-19 therapies in patients with chronic fatigue

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Background: A significant proportion of people who have had a SARS-CoV-2 infection suffer from persistent symptoms for more than three months, referred to as post-COVID-19 condition (PCC). Chronic fatigue syndrome (CFS) is common in people with PCC. Little is known about the use of therapeutic measures for people with CFS, and the effect of active exercise in particular is a subject of controversial debate.

Methods: From November 2023 to January 2024, an online survey was conducted among a random sample of statutorily-insured people with PCC (ICD10 U09.9). Patients with CFS were identified using the DSQ-PEM. The utilization of various physical, psychological and alternative medical therapies and their subjective effectiveness on a scale from 1 (significantly worsened) to 5 (significantly improved) were recorded. Mann-Whitney-U-tests were carried out.

Results: Preliminary analyses of 1,699 participants with persisting PCC revealed an indication for CFS in 310 participants. Looking at the active exercises, there is no difference in the utilization of functional training between people with and people without CFS (14.6 % vs. 14.5 %, $p = 1.0$), while rehabilitation sport is utilized significantly more frequently by people with CFS (26.5% vs. 18.7%, $p = 0.003$). While 45-48% of CFS patients benefited from active therapies, 20-30% showed a worsening of their symptoms. On average, people with CFS also showed significantly less improvement from rehabilitation sports (M 3.28 vs. 3.72, $p = 0.002$) and functional training (M 3.16 vs. 3.81, $p = 0.002$) than people without CFS.

Conclusions: People with CFS due to PCC are significantly more likely to utilize therapeutic services than people with PCC without CFS. Active therapies seemed to benefit almost half of CFS patients but led to worsening of symptoms in up to 20-30%. Further studies are needed to provide evidence-based treatment recommendations for this vulnerable population.

Key messages:

- People with PCC and CFS benefit less from active therapies than people with PCC without CFS. Utilization of active therapies worsen symptoms in a relevant minority of 20-30% of CFS patients.
- Further research should focus on evidence-based treatment recommendations for people with PCC and CFS.

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Advancing mammography uptake among vulnerable groups: a systematic review of intervention strategies

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With over 2 million cases diagnosed annually, breast cancer is a leading cause of cancer-related disability and mortality. Despite global efforts to implement mammography screening programs, uptake rates vary widely across settings due to socioeconomic factors and accessibility challenges. To improve participation, targeted interventions addressing barriers faced by underserved groups are essential for promoting inclusive screening and early detection. As part of the ENTER project, which aims to address disparities in breast cancer screening participation among women with low socioeconomic status (SES) in Flanders, Belgium, we conducted a systematic review and meta-analysis on the effectiveness of interventions to enhance mammography uptake. To explore the differential impact of interventions on mammography uptake among vulnerable groups, including individuals with low SES, underinsured, with immigrant background or part of an ethnic minority, subgroup analyses were performed. 7 databases were searched, resulting in the inclusion of 54 out of 9,366 papers for analysis. 14 types of interventions were identified. The meta-analysis showed significant pooled effects of interventions that increased mammography uptake [OR 1.8 (95%CI 1.6-2.2)], particularly among vulnerable populations [OR 2.2 (95%CI 1.7-2.8)]. The most effective interventions were educational interventions [OR 3.03 (95%CI 2.2-4.9); in vulnerable groups OR 2.7 (95%CI 1.9-3.9)]. As expected, interventions adapted to linguistic needs and culturally sensitive approaches showed a significant effect among vulnerable target groups [OR 2.9 (95%CI 1.1-7.9) and OR 2.5 (95%CI 1.1-5.6), respectively]. Reminders were also highly effective [OR 1.8 (95%CI 1.5-2.1); in vulnerable groups OR 2.5 (95%CI 1.9-3.1)]. This review underscores the critical role of targeted interventions in augmenting screening mammography uptake, particularly among vulnerable populations, where odds of participation can increase by up to 2-3 times.

Key messages:

- Interventions adapted to the linguistic needs of the target population and culturally sensitive approaches, aligned with values and beliefs of a specific community, can greatly enhance screening rates.
- Considering costs, practicality and impact, reminder letters with culturally and linguistically adapted content emerged as the most promising option for implementation in the ENTER project.

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Lung cancer screening: Real screening site data, Vojvodina, Serbia

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Background: Lung cancer (LC) is the top cause of cancer-related deaths globally and in Serbia, often diagnosed in advanced stage of disease with when 5-year survival is 10% to 20%. LC screening with low-dose CT (LDCT) can decrease LC mortality and overall mortality. The first pilot LC screening program in Serbia started in the Institute for Pulmonary Diseases of Vojvodina in September 2020. The main objective of this study was to analyze LC patient characteristics according to their screening status.

Methods: This retrospective study utilized LC hospital registry data from September 2020 to December 2023, including gender, age at diagnosis, settlement area, smoking habits, cancer histological type, TNM classification, disease stage (1-4), and data on participation in LC screening. Group differences were assessed using chi-square and Student's t-tests, with analyses conducted in SPSS v24.0.

Results: During observed period from a total of 4649 LC cases 2948 (63.4%) were males, and 73 (1.6%) were included in LC screening. Average age of all LC patients was 66 years, without differences between groups ($p = 0.778$). Significant differences between groups by gender were find ($p = 0.042$). Non-screened LC patients were significantly common males compared to females (63.6% vs 36.4%), while among screened difference by gender were lower (52.1% vs 47.9%, respectively). Screened compared to non-screened LC patients have significantly lower percentage of SCLC (9.6% vs 19.1%), and higher percentage of NSCLC (90.4% vs 80.9%), ($p = 0.040$). According to LC stage, screened compared to non-screened patients were significantly common diagnosed in stage I of disease (45.8% vs 7.8%), and significantly less common in higher LC stages; stage IIIB (11.1% vs 22.5%), and in stage IV (22.2% vs 45.7%), ($p < 0.001$).

Conclusions: LC screening with LDCT is proven secondary preventive measure with significant influence on decreasing LC mortality by increasing number of LC patients in early stages of disease.

Key messages:

- Lung cancer screening with low-dose CT significantly increases early-stage diagnoses, improving survival chances.
- Population strategies to prevent smoking and screening programs for high-risk groups are needed to reduce lung cancer incidence and mortality rates in Serbia.

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Dementia in migrants living in Lazio region, Italy: prevalence and population characteristics

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Background: Given ongoing demographic and epidemiological transitions, dementia prevalence is expected to rise among both native populations and migrants. Understanding this phenomenon is crucial for healthcare planning. This study, part of the IMMIDEM project (GR-2021-12372081), aims to estimate dementia prevalence in Lazio by migrant status.

Methods: A cross-sectional study was conducted on individuals aged ≥ 50, living in Lazio and receiving assistance from the Regional Health Service as of December 31, 2022. A validated algorithm based on Health Information Systems identified patients with dementia. Migrant status was defined by Country of birth, categorized as native Italians, migrants from Highly Developed Countries (HDCs) and from High Migratory Pressure Countries (HMPCs). Age-standardized prevalence of dementia was estimated overall and by migrant status, and 95% confidence intervals (CI) were calculated. Dementia population characteristics were described and compared according to migrant status using χ2test.

Results: The study included 3,976,160 individuals: 88.9% Italians, 1.7% migrants from HDCs, and 9.4% from HMPCs. Among them, 38,708 had dementia, with a prevalence of 8.48‰ (CI: 8.39-8.57). Dementia prevalence by migrant status was 8.68‰ (CI: 8.58-8.77) in Italians, 6.90‰ (CI: 6.19-7.62) in HDCs migrants, and 5.73‰ (CI:5.37-6.10) in HMPCs migrants. Demographic traits across migrant categories reveal distinct age and gender patterns, with more elderly Italians and a higher male percentage among migrants. From a clinical perspective, Italians showed a higher percentage of circulatory system diseases than migrants (23.5% Italians, 19.2% HDCs, 18.7% HMPCs, $p = 0.001$), along with a greater percentage of anti-dementia drug prescriptions (54.4% Italians, 50.9% HDCs, 47.4% HMPCs, $p < 0.001$).

Conclusions: The study found lower dementia prevalence among migrants compared to native Italians, with reduced access to healthcare services, especially in individuals from HMPCs.

Key messages:

- The dementia prevalence in migrants is lower than in native Italians.
- These findings suggest potential underdiagnosis and undertreatment, urging policymakers and healthcare providers to address these healthcare disparities.

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Barriers to Personalised Prevention: Perspectives from a Multi-Stakeholder Consultation

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Background: The high and increasing burden of Non-Communicable Diseases (NCDs) demands a healthcare shift towards prevention. Personalised preventive interventions (PPIs) that consider biological, sociocultural, environmental, and behavioural characteristics of individuals, are not as widely adopted as other personalised medicine approaches. To identify the main barriers and gaps that are hindering the adoption of PPIs in healthcare systems, we consulted a wide range of European stakeholders, including health professionals, policy makers, citizens and patients, and researchers.

Methods: The consultation process included experts' interviews and an online survey, taking place over 10 months in 2023/2024. Interviews were analysed using qualitative Thematic Analysis. The online survey development was based on the barriers identified by the interviewed experts, complemented with findings from the literature. Respondents scored their level of agreement/disagreement using a 6-point Likert scale. Descriptive statistical analysis was performed.

Results: A total of 26 semi-structured interviews and 270 complete surveys were obtained. Overall, the main barriers highlighted were: 1) Health systems strategies are geared towards curative care and not prevention. 2) Awareness and understanding of the concept of PPIs is low. 3) There is a lack of basic and life-long training for health professionals on PPIs; 4) There is insufficient evidence for PPIs to raise the necessary policymakers' interest. 5) Health literacy of citizens and patients is low. 6) There is insufficient prevention research, evidence of cost-efficiency and regulation procedures for translation into health practice.

Conclusions: Identified barriers are interconnected and the challenges extend beyond prevention to personalized medicine interventions. Collaborative efforts are needed to elevate visibility and engage stakeholders, facilitating integration of PPIs into healthcare systems for widespread adoption.

Key messages:

- This consultation offers valuable insights on challenges that need to be addressed to enable the integration of PPIs into healthcare and reduce the burden of NCDs.
- Investments in disease prevention and PPIs should stand as a global key priority.

Abstract citation ID: ckae144.1322
Investigating socioeconomic disparities in prescribing new diabetes medication

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Background: There is a concern regarding socioeconomic disparities in prescription of new medications such as SGLT-2is or GLP-1RAs in type 2 diabetes mellitus (T2DM). This study aims to analyze prescription patterns of these medications and assess socioeconomic disparities in their initiation among individuals with T2DM with very high cardiovascular risk.

Methods: Individuals diagnosed with T2DM and very high cardiovascular risk were identified ($N = 10,768$) based on general practitioner' electronic health record data. Socioeconomic status (SES) was based on standardized disposable household income in quintiles. The association between SES and the prescription of SGLT-2is and GLP-1RAs in 2022 was investigated by logistic regression analyses, adjusting for potential confounding factors. SGLT-2is and GLP-1RAs prescription patterns were examined over 2019-2022, stratified for age-groups and sex.

Results: We found a positive association between SES quintile 1 (referent) and quintile 4 in SGLT-2is prescription in all models (OR 1.29 95%CI:1.08-1.54 in the fully adjusted model). For prescriptions of GLP-1RAs, we found no significant differences in SES. Proportionally, men are more frequently prescribed SGLT-2is, while there are no sex disparities in GLP-1RAs prescription. Older individuals consistently receive fewer SGLT-2is and GLP-1RAs prescriptions compared to other age categories.

Conclusions: We observed sex and age disparities but no profound socioeconomic differences in initiation of SGLT-2is and GLP-1RAs in the Netherlands. The latter may be due to guidelines' clear indication of the eligible population (T2DM and very high cardiovascular risk) and GP education. Future development and potential disparities in initiation and maintenance should be monitored.

Key messages:

- We found no disparities in prescribing new Type 2 diabetes medication based on socioeconomic status.
- The adoption of prescribing new medication for Type 2 diabetes patients takes time.

Abstract citation ID: ckae144.1323
Spatial disparities in cancer incidence and mortality, indicating gaps in prevention and/or care

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Background: There is a rich literature on the distribution of cancer incidence and mortality in socioeconomically different regions of the world, but none of the studies has compared the spatial distribution of mortality and morbidity to see if they are consistent with each other.

Methods: All malignant neoplasms and separately by cervical, colorectal, breast, pancreatic, lung and oral cancers were studied in the Hungarian population aged 25-64 years for the period 2007-2018 at the municipality level by sex. In each case, the spatial distribution of morbidity and mortality and their clusters were compared with each other and with the level of deprivation using disease mapping, spatial regression, risk analysis and spatial scan statistics.

Results: All-cause cancer morbidity and mortality showed a significant association with deprivation. However, the slope of the increase in mortality with increasing deprivation was much steeper than for morbidity in both sexes. The association between deprivation and morbidity was not consistent across all cancers. No significant association was found for male colorectal cancer (RR: 1.003; 95%CI 0.986-1.019), pancreatic cancer (1.014; 95%CI 0.983-1.045) and female colorectal cancer morbidity (RR: 0.977; 95%CI 0.991-1.029), whereas a negative association was found for breast cancer morbidity (RR: 0.977; 95%CI 0.963-0.991). In contrast, a positive association between deprivation and mortality was found for each type of cancer, although with different RRs. However, disease mapping analyses showed only partial overlap between high-risk morbidity and mortality areas, often independent of deprivation.

Conclusions: Our results highlight not only the diverse relationship between the epidemiological situation and deprivation, but also the disproportionate relationship between cancer morbidity and mortality, thus identifying geographical regions and sub-regions with populations that require special public health attention.

Key messages:
- Comparative spatial analysis of cancer morbidity and mortality at the municipality level is strongly recommended to identify populations in need of targeted cancer prevention and/or care.
- The usefulness of comparative spatial analysis of cancer morbidity and mortality is demonstrated in Hungary, one of the countries with the most unfavourable cancer burden in international comparison.

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A review of the risk factors for Autism

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Background: Autism Spectrum Disorder (or Autism) is a neurodevelopmental and neurological condition, with prevalence of 1 in 100 children globally. This review examines the most common factors associated with Autism.

Methods: We conducted a scoping review of factors associated with an increased risk of developing Autism. These included genetic predisposition, parental age, gender, birth complications and morbidities due to other medical conditions.

Results: Evidence from twin studies shows a 90% genetic predisposition towards Autism - with 102 genes strongly associated with Autism, including SCN1A and SLC6A1. There are also genetic syndromes and chromosomal disorders associated with Autism, including Fragile X syndrome and Tuberous Sclerosis complex (TSC). Several studies have demonstrated an increased risk with advanced parental age (>35 years) (e.g., fathers >50 years are 2.2 times more likely to have a child with Autism than those <30 years). Other factors include infections during pregnancy (e.g. immune dysfunction) and gestational diabetes. Prematurity, such as low birth weight (<1500g) and low gestational age (<32 weeks) are also associated with an increased risk of Autism. With regard to gender, boys are more likely to be diagnosed with Autism - gender ratio of 3:1 and 4:1 has been reported in different populations. Abnormalities in brain development during early prenatal or postnatal periods may increase the risk of Autism. These abnormalities can lead to social, communication, and behavioural challenges characteristic of Autism.

Conclusions: Autism is a complex and heterogeneous condition that likely arises from a combination of factors such as genetic susceptibility and pre- and postnatal factors. An understanding of these factors is important for early detection, intervention, and support for children to improve their quality of life and reduce morbidity.

Key messages:
- Risk factors associated with an increased risk of developing Autism include genetic predisposition, parental age, gender, birth complications and other comorbidities.
- There is need to increase awareness of the risk factors of Autism to improve quality of life.

Abstract citation ID: ckae144.1325
Cancer prevention for homeless people: Qualitative evaluation of the Health Navigator Model

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Background: People experiencing homelessness (PEH) face significant barriers when accessing cancer preventive services. The Health Navigator Model (HNM) seeks to address these challenges by improving access and engagement with cancer preventive care through tailored navigation services. This study aimed to explore PEH's and health navigators' experiences with the HNM.

Methods: This qualitative evaluation involved semi-structured interviews with a total of 61 PEH receiving the HNM intervention and 11 health navigators across four pilot sites in Austria, Greece, Spain, and the UK. Data were analyzed thematically using a cross-national coding framework.

Results: Following overarching themes were identified: (1) State of health and perception of health of PEH; (2) Experiences and understanding of cancer prevention; (3) Perceived effects of the Health Navigation intervention; (4) Navigators' experiences with the implementation of the Health Navigation intervention; and (5) Effects of the Health Navigation intervention from the navigator perspective and sustainability of the intervention. Participants reported a general lack of access to healthcare services and low cancer prevention literacy. The HNM intervention led to increased engagement in cancer prevention activities, such as screenings, facilitated by the personalized support from health navigators. Navigators played a crucial role in bridging the gap between PEH and healthcare systems, though challenges such as mistrust and logistical barriers persisted.

Conclusions: The HNM has shown potential in enhancing cancer preventive care access for PEH by providing personalized guidance and support. The navigators' role was pivotal in overcoming systemic and individual barriers, suggesting the need for integrated services that cater specifically to PEH. Future implementations should consider continuous training for navigators and further integration into local health systems to expand the benefits of the intervention.

Key messages:

- The Health Navigator Model effectively enhanced cancer prevention engagement among people experiencing homelessness and empowered them through tailored and person-centered support.
- Health navigators bridged healthcare gaps for people experiencing homelessness, improving their access to cancer preventive care services in their local settings.

Abstract citation ID: ckae144.1326
Understanding Knowledge and Perception of Hypertension in Rural Zambia: A Population-Based Study

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Introduction: Hypertension poses a significant challenge in sub-Saharan Africa, with Zambia reporting a 32% prevalence in 2019. However, there is a presumed lack of knowledge among residents due to inadequate preventive education. This study aims to describe the knowledge and perception of hypertension among rural residents in Zambia.

Methods: This cross-sectional study employed rigorous probability sampling. We recruited 690 residents aged 25-64 from the Mumbwa district using a multistage, clustered, household sampling method for surveys and measurements conducted from May to July 2016. Data analysis considered the complex sampling design.

Results: Males accounted for 48.6%, with a mean age of 41.9 (SE 0.6). The prevalence of hypertension was 36.5%, with only 37.1% of those aware of their condition. 98.0% perceived hypertension as common, 71.8% expressed concern, and 62.9% deemed it a more serious health risk than HIV. Stress (85.3%) and dietary habits (excessive oil 51.8%, salt 47.5%, sugar 42.4%, poor diet 31.5%) were recognized as the risks. Perception of smoking and physical inactivity as risk factors was low, at 14.9% and 22.7%, respectively. Regarding hypertension prevention, 73.9% believed it to be preventable, mainly through dietary improvements (69.0%), medication (51.1%), and exercise (36.0%). Perception of smoking cessation and alcohol abstinence was 18.0% and 1.4%, respectively. Only 20.4% had prior hypertension education.

Conclusions: This study reveals residents' concerns about hypertension and their perception of dietary improvements as preventive measures. However, there was a notable gap in perceiving stress as a preventable risk factor, along with limited awareness of smoking and alcohol as risk factors. Comprehensive health education programs in rural Zambia are necessary to address these gaps, emphasizing lifestyle changes such as stress reduction, smoking cessation, and reducing alcohol consumption to enhance hypertension awareness and prevention.

Key messages:

- Participants show a strong awareness of hypertension, perceiving it as a serious health risk and recognizing common factors such as stress and poor dietary habits.
- There is a lack of awareness concerning smoking and physical inactivity as risk factors, emphasizing the necessity for comprehensive education to promote preventive measures.

Abstract citation ID: ckae144.1327
Multidisciplinary management of gastroesophageal reflux disease: an italian retrospective study

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Background: Millions of individuals are affected by gastroesophageal reflux disease (GERD) that causes significant discomfort negatively affecting patients' overall quality of life. For a collaborative approach of continuous improvement in public health we wanted to know the real-world perspectives in the multidisciplinary and multimodal management pathway.

Methods: We aimed to interview a sample of gastroenterologists (GE), primary care physicians (GP), and otolaryngologists (ENT) to investigate the management of the intake and treatment of patients reporting symptoms of GERD. Symptoms were divided into typical and extraesophageal, and their severity and impact on quality of life was explored with the GERD Impact Scale (GSI) and Reflux Symptom Index (RSI).

Results: A total of 6211 patients were analyzed of whom with typical symptoms were 53.5%, while those with extraesophageal symptoms were 46.5%. The latter were more frequently reported by ENT patients (53.6%, $p < 0.0001$). GSI was highest in patients followed by GE (9 points) and GP (9 points) than ENT specialists (8 points), while the RSI was higher in the ENT group (14.3 ± 6.93) than in the groups of GP and GE, respectively (10.36 ± 6.36 and 10.81 ± 7.30, $p < 0.0001$). Chest pain had the greatest negative impact on quality of life ($p < 0.0001$). Of the 3,025 patients who used (proton pump inhibitors) PPIs, non-responders had a lower GSI when treated with a combination of adjunctive drug treatments and bioadhesive compounds, compared with single-component drugs.

Conclusions: The multidisciplinary and multimodal approach to the management pathway of GERD patients reveals variations in patient profiles by physician specialty, directing toward more appropriate and targeted treatments. In addition, the combination of adjunctive drug treatments and bioadhesive compounds appears to be effective in the management of patients refractory to PPIs.

Key messages:

- The presentation of GERD symptoms is different in accordance with the physician's speciality: the patients with GERD referred to a gastroenterologist had more severe disease and poorer quality of life.
- The combination of adjunctive pharmacological treatments and bioadhesive compounds seems to be effective in the management of PPI refractory patients.

Abstract citation ID: ckae144.1328
The Effect of Text messages and Education on Cancer Screening in Women Aged 30-65

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Background: Despite it is known that cancer screenings reduce cancer-related deaths, screening rates are still inadequate. The aim of this study is to examine the effect of text messaging and training on cancer screening in women aged 30-65.

Methods: This non-randomized controlled trial was conducted with 120 women aged 30-65 between November 2023 and April 2024 in Tekirdağ, Türkiye. Participants were divided into the text message group (TMG) ($n = 60$), the training group (TG) ($n = 60$), and the control group (CG) ($n = 60$). In the text message group, every participant received text messages about cancer and importance of screening procedures, one a day for ten days. The training group was educated for a session that lasted 45 min. Data was collected both before and 3 months after the intervention, using a questionnaire that included two parts (sociodemographic characteristics and stages of change for cancer screening practices). Data was analyzed using the Marginal Homogeneity test.

Results: The rates of those who had a pap smear test, breast self-examination (BSE), mammography, and stool occult blood screening were found to be significantly higher in both the text message group and the training group in the post-test than the pre-test. ($p<.001$). In the text message group, there was an increased rate of 43.4% for pap smear test, 25% for BSE, 17.3% for mammography, and 10% for stool occult blood screening. In the training group, there was an increased rate of 31,7 % for pap smear test, 26,7% for BSE, 13,3% for mammography, and 23,4 % for stool occult blood screening. There was no change in the control group.

Conclusions: The results showed that both text messages and training about cancer screening are effective in increasing the rate of cervix, breast, and colorectal cancer screening.

Key messages:

- Text messaging about cancer screening is as effective as training in increasing the rate of cervix, breast, and colorectal cancer screening.
- Text messaging interventions may be an effective and practical way to increase cancer screening rates in populations most affected by health disparities.

Abstract citation ID: ckae144.1329
Improving breast cancer care post-pandemic from the patient perspective

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Background: Since the onset of the pandemic, breast cancer (BC) services have been disrupted in most countries. The purpose of this qualitative study is to explore the unmet needs, patient-priorities, and recommendations for improving BC healthcare post-pandemic for women with BC and to understand how they may vary based on socio-economic status (SES).

Methods: 37 women were invited to take part in follow-up semi-structured qualitative interviews in early 2023. The interviews explored their perspectives of BC care since the easing of COVID-19 government restrictions, including unmet needs, patient-priorities, and recommendations specific to BC care. Thematic analysis was conducted to synthesize each topic narratively with corresponding sub-themes. Additionally, variation by SES was analysed within each sub-theme.

Results: Of the 28 women who participated in interviews, 39% were categorized as high-SES, while 61% were categorized as low-SES. Women expressed unmet needs in their BC care including routine care and mental and physical well-being care, as well as a lack of financial support to access BC care. Patient-priorities included: developing cohesion between different aspects of BC care; communication with and between healthcare professionals; and patient empowerment within BC care. Recommendations moving forward post-pandemic included: improving the transition from active to post-treatment; enhancing support resources; and implementing telemedicine where appropriate. Overall, women of low-SES experienced more severe unmet needs, which resulted in varied patient-priorities and recommendations.

Conclusions: As health systems are recovering from the COVID-19 pandemic, the emphasis should be on restoring access to BC care and improving the quality of BC care, with a particular consideration given to those women from low-SES, to reduce health inequalities post-pandemic.

Key messages:

- The pandemic has impacted BC services considerably and this study has identified a range of unmet needs, patient-centered priorities, and recommendations.
- Particular consideration needs to be given to those women from lower socioeconomic groups, in order to reduce health inequalities, which have been further exacerbated by the pandemic.

Abstract citation ID: ckae144.1330
The Rise in Glucagon-Like Peptide-1 Receptor Agonist Related Calls to United States Poison Centers

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Background: In 2005, the United States (U.S.) Food and Drug Administration (FDA) approved the first Glucagon-Like Peptide-1 Receptor Agonist (GLP-1RA) as adjunctive therapy to improve glycemic control in type 2 diabetes. In 2021, the FDA approved semaglutide for chronic weight management. We aim to characterize GLP-1RAs related calls to all U.S poison centers (PCs).

Methods: We conducted a retrospective review of the U.S. National Poison Data System (NPDS) between 2005 and 2023 for all GLP-1RA exposures. All 55 PCs covering the entire U.S. population submit, in near real-time, de-identified case data to NPDS after providing poison exposure management to callers from the general public and health care providers.

Results: During the study period, U.S. PCs handled 13,692 GLP-1RAs related calls, of which 12,451 were a GLP-1RA single substance exposures. In 2023, PCs received 4,414 GLP-1RA related calls, compared to 234 in 2014 (a twenty-fold increase over 10 years).

Seventy three percent of exposures involved females (n = 10,017). The main reasons for exposure were therapeutic errors (n = 10,213; 75%), adverse drug reactions (n = 1,222; 9%) and suspected suicide (n = 557; 4%). Gastrointestinal symptoms, such as nausea (n = 2,913; 23%), vomiting (n = 2,515; 20%), and abdominal pain (n = 593; 5%), and neurological symptoms, including central nervous system depression (n = 191; 1.5%), dizziness (n = 563; 5%) and headache (n = 495; 4%) were the most commonly reported clinical effects in single substance exposures. Hypoglycemia was reported in 431 cases (3.5%), Most single substance exposures were managed outside a healthcare facility (n = 8.573; 69%), and hospital admission was reported in 5% of exposures (n = 601).

Conclusions: PCs are well positioned to monitor trends in GLP-1RAs human exposures and associated adverse events and therapeutic errors. Based on available data, PCs can manage specific cases-types without referral to the hospital, preventing unnecessary healthcare utilization.

Key messages:

- Poison centers are well positioned to monitor trends in GLP-1RAs adverse events.
- Poison centers can prevent unnecessary healthcare utilization.

Abstract citation ID: ckae144.1331

Compliance of physical activity among adults with metabolic syndrome with the WHO recommendations

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Introduction: Low physical activity is a leading factor in 6% of deaths worldwide. In Bulgaria, it contributes to the deterioration of the health status of the population and determines 4.3% of the global burden of diseases. Over 70% of Bulgarian adults have insufficient physical activity during their free time. The aim of the study is to measure and assess the level of physical activity among adults with metabolic syndrome with the World Health Organization (WHO) Global recommendations.

Methods: A comparative study of the physical activity of a representative sample of 200 individuals with metabolic syndrome aged 54.7±10.5 from Pleven region was made with the WHO Global recommendations on physical activity for people living with chronic conditions. Modified Physical activity Questionnaire (PAQ) for adults was used for assessment of the physical activity. Data were processed with IBM SPSS v. 25.

Results: The weekly frequency of the vigorous-intensity physical activity (VIPA) was 1,61 days with a weekly duration of 215 minutes, which met the WHO recommendations on physical activity for people living with chronic conditions, but 64% of the respondents had none and only 26% had VIPA on 2 and more days a week. More than half of the respondents (55%) had none moderate-intensity aerobic PA. From the remaining, 34% had this type of PA on 3 and more days a week with duration of 225 minutes, which met the WHO recommendations. Walking more than 10 minutes a day on 5 and more days a week had 69% of the respondents (40 minutes/day). Only 12% had none walking. Only 2% stated that the physical inactivity is the most important cause for the rise of many non-communicable diseases.

Conclusions: More than half of the respondents had none vigorous- and moderate-intensity PA but the PA of the remaining met the WHO recommendations. Although physical inactivity is among the risk factors for the rise of many non-communicable diseases, contributing to death, it was not recognised by the respondents.

Key messages:

- Walking is the most important physical activity for the adults with metabolic syndrome.
- Increasing the duration of walking should be encouraged and supported to manage the metabolic syndrome.

Abstract citation ID: ckae144.1332

Long COVID in the UAE: symptomatology, gender gaps, and health implications among COVID-19 survivors

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Background: A growing number of COVID-19 survivors are experiencing symptoms post-SARS-CoV-2 infection, known as long COVID. It is a new multisystem condition and understanding its associated factors and its impact on individuals is crucial. This study aims to characterize long COVID in previously hospitalized patients in the UAE, identifying associated factors and assessing its impact on patients' daily lives.

Methods: A multicenter retrospective cohort study was conducted in hospitals in Dubai and Sharjah from January 29, 2020 to October 14, 2021, involving RT-PCR confirmed cases. Clinical, epidemiologic, and long COVID data were collected via hospital records and phone interviews.

Results: Long COVID affected 48.7% of 533 patients, with 46.6% prevalence persisting over a year. A total of 43 symptoms across 11 organ systems were reported. Females had 1.83 times higher odds of long COVID (95% CI [1.22, 2.74], p = 0.003). Each additional initial symptom (AOR = 1.22, 95% CI [1.05, 1.40], p = 0.008), ICU admission (AOR = 1.77, 95% CI [1.06, 2.98], p = 0.030), and $\geq$ 2 comorbidities (AOR = 2.19, 95% CI [1.09, 4.40], p = 0.027) increased the odds of long COVID. Long COVID significantly impacted daily life, with poorer health ratings (AOR = 5.576, 95% CI [3.029, 10.265], $p < .001$), worse health status (AOR = 7.842, 95% CI [4.954, 12.415], $p < .001$), and work limitations due to physical (AOR = 4.808, 95% CI [3.229, 7.158], $p < .001$) and emotional issues (AOR = 3.149, 95% CI [2.01, 4.933], $p < .001$). This impact persisted beyond 12 months post-infection.

Conclusions: Long COVID presents prolonged multisystem involvement and substantial disability among survivors, necessitating further research to understand its lasting effects and intervention development to mitigate its impact

Key messages:

- Long COVID poses a substantial challenge to public health in the UAE, affecting almost half of hospitalized survivors and extending its impact beyond 12 months post-infection.
- Risk factors like gender initial symptoms, ICU stay, and comorbidities increase the risk of long COVID, warranting the need for tailored interventions and support strategies for vulnerable populations.

Abstract citation ID: ckae144.1333
The interplay between healthy lifestyle and body mass index in metabolic syndrome

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The prevalence of metabolic syndrome (MS) tends to increase as body mass index (BMI) increases. However, the interplay between BMI and overall healthy lifestyle in MS remains unclear. We aimed to examine the association between healthy lifestyle and MS in BMI categories. Data comprised participants aged 30-64 years from the Healthy Finland Survey representing the Finnish adults ($n = 2027$). Information was collected through health examination measurements, blood sampling and questionnaires in 2023. Healthy Lifestyle Score (HLS) was defined as: 1) vegetables and fruits several times/day; 2) adherence to physical activity recommendations; 3) sufficient sleep duration; 4) no current daily smoking; 5) no risky alcohol drinking. Total score ranged 0-5; categorized as 0-2 (unhealthiest), 3, 4-5 (healthiest). MS was defined as exceeding risk limit in ≥ 3 of the following conditions: waist circumference, fasting glucose, triglycerides, blood pressure and HDL-cholesterol. BMI (kg/m2) was categorized as normal weight (<25), overweight, and obesity ($\geq$ 30). Weighted prevalence and 95% confidence intervals (CIs) stratified by sex were calculated considering sampling design and non-response. In both sexes, the prevalence of MS was lowest in those with normal weight and healthiest lifestyle (men 7%; 95% CI 2-11; women 9%; 6-13) and highest in those with obesity and unhealthiest lifestyle (m 86%; 80-92; w 67%; 56-78). In men, the prevalence of MS decreased within each BMI class as HLS scores increased, but the difference between healthiest and unhealthiest lifestyle was greatest in those with normal weight (7% vs. 26%) and lowest in those with obesity (71% vs. 86%). In women, the differences were greatest among those with overweight. Obesity and unhealthy lifestyle together form a major risk factor for MS. Differences in the prevalence of MS according to lifestyle were evident especially in men with normal weight or overweight, but decreased when the obesity threshold was exceeded.

Key messages:

- Obesity is strongly linked to the high prevalence of metabolic syndrome but maintaining a healthy lifestyle is important regardless of body mass index.
- The results indicate the importance of multifaceted prevention influencing lifestyle factors and supporting weight management to enhance the cost-effective prevention of metabolic risk accumulation.

Abstract citation ID: ckae144.1334
Developing new methods for patient care pathway assessment for breast cancer patients in Hungary

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Issue: The idea of progressive healthcare models is to treat patients preferably in one location as close to their homes as possible. This contradicts the demands of efficiency: to centralise the availability of expensive procedures and highly specialised staff. Healthcare systems need to navigate between these challenges, especially in public health issues such as cancer care.

Description of the problem: Achieving the best possible health outcomes requires evidence-based policies that find balance between the demands of accessibility and efficiency. Therefore, we aimed to set up a methodology to review the healthcare model and assess patient movements across the system. We analysed the roaming paths of breast cancer patients diagnosed in Hungary in 2017. Inter-hospital roaming was represented as a graph: hospitals were the nodes, patient movements from one hospital to another were directed edges. This allowed us to apply network analysis: modularisation, weighted degrees calculation, etc. We then introduced the measure of terminality. A hospital is terminal in a given pathway if it is the last new one, i.e. all hospitals visited later had already been visited before. Terminality is defined as the proportion of terminal events among all pathways that cross a given hospital. The rationale of this is that the last hospital in cancer pathways is usually not the highest level one: after advanced treatments, patients are often referred back to local hospitals.

Results: Testing the method on Hungarian breast cancer patients we observed that results fit our prior expectations. The official ranking of hospitals on the progressivity scale (reflecting the availability of advanced treatments) shows sufficient agreement with terminality. Minor differences may point to situations where the healthcare system does not work fully according to regulations.

Lessons: Our methodology is recommended for system level patient pathway analysis in order to develop evidence-based healthcare policies.

Key messages:

- Graph representation of inter-hospital patient roaming supports evidence-based policy developments for more efficient patient pathways in cancer care, regardless of the healthcare system design.
- The applied new network analysis methodology can help assessing the real life processes of cancer care in a healthcare system through identifying the specifics of inter-hospital patient movements.

Abstract citation ID: ckae144.1335
Diagnostic pathways and outcomes by comorbidity in cancer patients: a study in Northern Italy

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Background: Pre-existing chronic conditions can influence cancer diagnosis and outcomes. The study aimed to examine variations in diagnostic pathways and outcomes in colorectal cancer (CRC) patients by comorbidity status and socio-demographic characteristics in the provinces of Milan and Lodi, Northern Italy.

Methods: A population-based cohort study using linked administrative health data from the Agency for Health Protection (ATS) of Milan was conducted on individuals aged $\geq$18 years diagnosed with CRC in 2014-2017. We examined pathways to cancer diagnosis, stage at diagnosis and short-term mortality by specific comorbidities and sociodemographic factors.

Results: Among the 5,272 colon cancer and 2,120 rectal cancer patients, 43.9% and 61.5%, respectively, had at least one pre-existing comorbidity, most frequently hypertension (52.7% and 49.9%) and cardiovascular disease (CVD, 23.2% and 18.5%). Cancer diagnostic pathways included screening (4.1% colon and 4.4% rectal cancer patients), EP (22.8% and 12.6%) and inpatient/outpatient admission (73.1% and 82.9%). At multivariable logistic regression, patients with pre-existing cerebrovascular or neurological diseases had significantly higher odds of EP for CRC. In the multinomial logistic regression analysis, the odds of EP were significantly higher for patients aged <50 or ≥ 80 (vs 60-69), belonging to the highest deprivation group and being widowed (vs married). The odds of screen-detected CRC were lower for patients with multimorbidity (2 vs 0 comorbidities: adjusted OR = 0.32, 95% CI 0.14-0.75). 30-day and one-year mortality were higher in colon cancer patients with EP vs inpatient/outpatient (aOR=2.46, 95%CI 1.95-3.09; aOR=2.02, 95%CI 1.74-2.35 respectively). As the number of chronic conditions increased, mortality increased especially at one year. One-year mortality was also higher for rectal cancer patients with 3+ comorbidities (vs no comorbidities).

Key messages:

- Patients with pre-existing chronic conditions had a lower likelihood of screening, higher odds of emergency CRC diagnosis and higher mortality. EPs occur in one in five CRC patients.
- Tailored interventions might be needed to facilitate CRC screening, reducing emergency diagnoses and improving health outcomes for the large number of patients with chronic conditions.

Abstract citation ID: ckae144.1336
COPD empowerment scale: a scale development and validatıon study

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Background: The fact that COPD symptoms seriously affect daily life makes it different from other chronic diseases. The purpose of this study was to develop the COPD Empowerment Scale and test its psychometric properties.

Methods: This study, carried out with a methodological design, was carried out in a Chest Diseases Hospital in Istanbul, Turkey, between June 2023 and March 2024. A scale item pool was created by literature review and semi-structured interviews with COPD patients, and opinions were obtained from 16 experts. The draft scale, consisting of 55 items, was applied to 30 COPD patients as a pilot study. The draft scale was applied to 275 COPD patients and its psychometric properties were tested. The validity of the scale was evaluated by Content Validity Index (CGI) and exploratory and confirmatory factor analysis. Its reliability was evaluated by internal consistency analysis (Cronbach Alpha coefficient), item-total score correlations and test-retest analyses. Statistical significance level was accepted as $p < 0.05$.

Results: The KGI of the scale was found to be 0.97. The draft scale was transformed into a scale with five sub-dimensions and 31 items as a result of exploratory factor analysis. Cronbach's Alpha value of the total scale is 0.896, and its sub-dimensions Cronbach's Alpha values are; knowledge and understanding was found to be 0.731, access to health services was 0.816, self-efficacy was 0.719, symptom management was 0.842, and psycho-social coping was 0.728. Factor loadings of all items were 0.40 and above. As a result of confirmatory factor analysis, $\chi 2$ /df (2.59), RMSEA (0.076), NFI (0.92), NNFI (0.95), SRMR (0.03) and CFI (0.95) measurements are within the desired fit values. In the test-retest reliability study of the scale, the Pearson moment correlation coefficient was found to be ráµ^{a}áµ^{a}=.996 (p<.01).

Conclusions: The COPD empowerment scale was found to be psychometrically valid and reliable.

Key messages:

- The developed scale is a valid and reliable tool to determine the reinforcement needs of COPD patients.
- The scale can be used to evaluate the effectiveness of empowerment initiatives.

Abstract citation ID: ckae144.1337
Post-infection symptoms up to 24 months after COVID-19: a matched cohort study in Berlin, Germany

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Background: Long-term health consequences after mild COVID-19 are not well described. Our aim was to estimate their prevalence and describe the time course of signs and symptoms for a period of up to 24 months after confirmed SARS-CoV-2 infection.

Methods: We conducted a cohort study matched for age, sex, and test week among individuals who had attended the public COVID-19 test center at Charité - Universitätsmedizin Berlin, Germany. In early 2022, 576 former COVID-19 patients (>95% non-hospitalised) and 302 uninfected individuals responded to a questionnaire on retrospective monthly symptoms since the test date up to 24 months after.

Results: Symptoms compatible with long COVID were present in 42.9% (247/576) of former COVID-19 patients, compared with 21.2% (64/302) in the uninfected group. In former patients, unadjusted odds ratios (OR) were highest for disturbed taste/smell (OR 9.1 [95% CI: 4.0 - 21.1]), memory difficulties (OR 5.1 [95% CI: 2.9 - 8.9]) and shortness of breath at rest (OR 4.5 [95% CI: 1.9 - 10.6]). Whilst in most former COVID-19 patients, symptoms occurred in one coherent period and resolved after a median of 6.5 months, taste/smell disturbance and neurological/cognitive symptoms showed longer times until recovery and 28.7% (31/108) still reported long COVID-compatible symptoms 18 months after initial COVID-19. Factors associated with long COVID-compatible symptoms included hospitalisation (OR 4.2 [95% CI: 1.7 - 10.8], symptomatic COVID-19 infection (OR 3.4 [95% CI: 1.9 - 6.3], low household income (OR 1.8 [95% CI: 1.2 - 2.7], and female sex (OR 1.7 [95% CI: 1.2 - 2.4]).

Conclusions: Post-infection symptoms in mild COVID-19 mostly persist for about half a year, but sometimes longer. Among uninfected individuals who never experienced COVID-19, 21.2% also reported long COVID-compatible symptoms. The current long COVID definition might require revision to prevent misclassification and over-reporting, and to improve diagnosis and prevalence estimates.

Key messages:

- A more precise definition of long COVID is needed to prevent over-reporting of symptoms compatible with long COVID, and to improve diagnosis, prevalence estimates and research harmonisation.

- Post-infection symptoms after mild COVID-19 are common, mostly persist for about half a year but sometimes longer for more than 20 months.

Abstract citation ID: ckae144.1338

Loneliness in the elderly and disease development in European welfare regions: a longitudinal study

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Healthy ageing research has brought a recent focus on the association between loneliness and disease. Regional differences on loneliness prevalence in the elderly across welfare systems, and its association with varying mortality rates, have recently been demonstrated. We hypothesise loneliness affects disease development in the elderly, impacted by socio-economic policies that characterise welfare systems in the EU. We use logistic regression models to assess the association between loneliness (R-UCLA scale) and onset of new chronic disease and disease events, in a European sample of people aged >50 ($n = 40840$), using the SHARE database, during 2013 - 22 (waves 5 to 9). Preliminary results from two subsequent waves (2015-17, $n = 11870$) show a statistically significant effect of persistent loneliness on disease onset (increase in new disease events), when adjusting for sex, age, previous illness, and other socio-economic covariates (AOR 1.22, 95%CI 1.08-1.39, $p < 0.01$). Notably, comparing to the Scandinavian welfare group, only Eastern European countries show higher odds of disease development (AOR 1.52, 95%CI 1.32-1.77, $p < 0.001$), while also having the highest incidence of new disease in our sample. Age and welfare group show the strongest association with the outcome of interest, followed by change in occupation (no longer employed). Our current analyses span a larger period (2013-22), and we are exploring additional mediators of this effect, such as behavioural and social activity-related variables. Additional analyses to control for unrelated disease (low biological plausibility) and a social isolation index, described in the literature, are added. Furthermore, we analyse the longitudinal association between loneliness and healthcare use, such as polypharmacy and consults. With this study, we aim to contribute decision-making in health in all policies, by increasing integration between health and social sectors, while considering different regional and welfare policies.

Key messages:

- Understanding socio-economic and welfare mechanisms which impact health in the elderly allows for better cross-sector policy design, promoting healthier ageing.
- Persistent feelings of loneliness affect disease development in the elderly, which appear to be worsened in some EU welfare groups, independently of socio-economic status.

Abstract citation ID: ckae144.1339

Assessment of Integrated Care Pathways for dementia in Italy according to the National Guidance

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Background: Italy counts 1 million people with dementia and 3 million caregivers. An integrated management system provides comprehensive care for people with non-communicable diseases, including dementia, through integrated care pathways (ICPs). Our study identified available dementia ICPs and assessed their compliance with the National Guidance on ICPs for People with Dementia (NGICPD). The project is carried out with the technical and financial support of the Ministry of Health (Chapter 2302).

Methods: We located ICPs by browsing all the websites of regions and Local Health Authorities (LHAs), contacting by email all LHAs, collecting ICPs from a survey carried out by the Dementia Observatory of the Italian National Institute of Health, and communicating with regional contacts. We included the ICPs produced after the NGICPD by the end of 2023. We applied a checklist developed on NGICPD consisting of 3 domains: Reference framework (0-15), Elements of the ICP (0-14), Construction of the ICP (0-14). ICPs were assessed by two researchers; a third solved the conflict points. The concordance was expressed by the intra-class correlation coefficient.

Results: We analysed 39 ICPs (11 regional, 28 LHAs) out of 87 collected. 15/21 regions and 30/110 LHAs developed an ICP. The observed mean total score was 23.5±7.9 for the regional ICPs and 23.1±5 for the LHAs ICPs. We observed low compliance with NGICPD, particularly in domain 3. The development of a health information system was included in 5/11 of regional and 12/28 of ICPs of LHAs; a monitoring system was present in 8/11 of regional and 25/28 LHAs ICPs. Concordance analysis showed an excellent correlation for regional ICPs and good for LHAs ICPs.

Conclusions: Our analysis highlighted low compliance of ICPs with the NGICPD and critical issues in monitoring. Our analysis stresses the need for all regions and LHAs to develop or update ICPs in line with NGICPD and the Italian Guidance on diagnosis and treatment of dementia.

Key messages:

- Developing a pathway of efficient and coordinated care is essential to guarantee the quality of care for people with dementia and their families. All regions and LHAs must develop or update ICPs.
- Monitoring ICP with indicators is crucial to planning cost-effective healthcare services.

Abstract citation ID: ckae144.1340

Bias in Evaluating Trends of Thyroid Cancer Incidence between Rural and Urban Populations

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Background: Diagnosis of thyroid cancer is based on fine needle aspiration cytology of thyroid nodules, based on nodules' sonographic appearance and size. The American Thyroid Association published new guidelines for management of thyroid nodules in 2009 and 2015, where in some cases, only follow-up of thyroid nodules without any other procedure is recommended. This may

lead to a decrease in diagnosed thyroid cancer cases. We studied thyroid cancer trends in Israel between the Arab population who are more likely to be living in rural areas, and the Jewish population who predominantly living in urban areas, and assesses whether these guidelines were reflected in the trends.

Methods: Data on new thyroid cancer cases were retrieved for Jews and Arabs separately from the Israel National Cancer Registry. Trends in age standardized incidence rates between 1996-2019 were evaluated for the two population groups using joinpoint regression model. Population group was included in the regression models to compare the trends between the two groups. We also studied trends in treatment of thyroid cancer at Rambam Health Care Campus.

Results: In both populations, age standardized thyroid cancer incidence rate increased between 1996 and 2013. However, between 2013-2019, Annual Percentage Change continuously increased in Arabs, but decreased in Jews. In the hospital study, we found that the Arab patients were 30% more likely to have surgery for small tumors.

Conclusions: The decrease in thyroid cancer incidence in the Jewish population compared with the Arab population may be related to differences in implementing the 2009 guidelines, which do not recommend fine needle aspiration cytology for very small tumors. We have found evidence that these guidelines were not followed to the same extent among Arab community clinics. This may explain the persisting increasing trend among Arabs, and could be one of the possible explanations for the differences in trends between the two groups.

Key messages:

- Updated Guidelines regarding thyroid cancer diagnosis may be differently implemented by rural and urban populations.
- Trends assessment may be biased due to differences in guidelines implementation.

Abstract citation ID: ckae144.1341
Temporal trends, regional and socio-economic disparities of colorectal cancer burden in Cyprus

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Background: Colorectal cancer (CRC) is one of the main causes of mortality and morbidity worldwide and it is the third most common cancer in Cyprus. Previous studies have documented variations in CRC burden over time, across regions and area-based socio-economic deprivation. The aim of this study was to analyse the burden of CRC over time, across regions and area-based socio-economic deprivation in Cyprus for the time period 2000 to 2015.

Methods: A small area ecological study was performed, with census tracts as units of spatial analysis. The incidence and death date, sex and age of CRC were obtained from the population-based cancer registry of Cyprus. Indirect standardization was used to calculate the sex and age Standardize Incidence Ratios (SIRs) and Standardized Mortality Ratios (SMRs) of CRC while the smoothed estimates of SIRs and SMRs were derived from the Spatiotemporal Bayesian Poisson log-linear model. To investigate temporal trends in the association between area-based socioeconomic deprivation and CRC burden, we have used the national socio-economic index.

Results: The burden of CRC was rising over time. The CRC cumulative incidence increase from 243.7 in the time period 2000-2007 to 347.3 per 100,000 persons in the time period 2008-2015.There was also a more pronounced geographical variation in SIR and SMR in the time period 2008-2015. Four areas out of 369 had smoothed SIR>1.15 while twenty-six areas had smoothed SMR>1.15, with most of those areas located at the east coast of the island and around the capital city. There was a temporal trend in the socio-economic inequalities of CRC burden. The areas in the third and fourth quartile of the socio-economic index had 23% and 45% lower rates of CRC incidence, and 33% and 47% lower rates of CRC mortality in the period 2008-2015.

Conclusions: These findings could shape national prevention policies, such as the national screening program of CRC starting in 2025 and protection strategies for CRC mortality.

Key messages:

- Colorectal cancer screening should be geographically targeted for efficient resource allocation.
- Public health interventions to improve colorectal-specific mortality risk should be geographically targeted.

Abstract citation ID: ckae144.1342
Five-year cancer survival rates in Monastir, Tunisia

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Background: Cancer is a major public health problem worldwide. To the best of our knowledge, there is no Tunisian population-based registry studies investigating cancer survival in Tunisia. The objectives of our study were to estimate the five-year cancer survival rates in the province of Monastir, Tunisia.

Methods: We performed a retrospective cohort study including patients originating from Monastir diagnosed with cancer between 2002 and 2014. Data were collected from the cancer register of the center. Patients were followed until December 2022.

Results: In total, 9318 cancer cases were identified of whom 5741 were included for the survival analysis. The 5-year cancer survival rate, all sites combined, was 46% (95% CI: 45-47.3). Among the 10 most frequent cancer sites in Monastir, cancers having the lowest 5-year survival rates were lung cancer in men (18.2% (95% CI: 15.6-20.7)) and stomach cancer in both sexes (32.1% (95% CI: 23.4-40.7) and 25.3% (95% CI: 16-34.5) in men and women respectively). The cancers with the highest 5-year survival rates among men were skin cancer (other than malignant melanoma) (64% (95% CI: 54.5-73.4)), prostate cancer (59.1% (95% CI:54.7-63.4)) and colon cancer (55.1% (95% CI: 47.7-62.4). In women, cervical cancer (70% (95% CI: 61.8-78.1), skin cancer (other than malignant melanoma) (66.2% (95% CI: 55.1-77.2) and breast cancer (63.8% (95% CI:58.8-67.7)) were those with the highest 5-year survival rates. Patients $\geq$ 65 years had the lowest 5-year survival rates for almost all cancer sites in both genders.

Conclusions: Our study has shown that cancer survival rates in Tunisia remain low compared to developed countries. The widespread implementation of cancer control programs including healthy lifestyle, education, screening and early detection are urgently needed.

Key messages:

- The 5-year cancer survival rate, all sites combined, in Monastir was 46% (95% CI: 45-47.3).
- Cancers with the lowest 5-year survival rates in Monastir were lung cancer in men and stomach cancer in both sexes.

Abstract citation ID: ckae144.1343
Integrated Care in Parkinson's disease: e-training for multidisciplinary team members

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Background: Parkinson's is a high prevalence disease worldwide and training in Integrated Care (IC) for professionals in this field is an obvious need. The SUPER training course is focused on integrated care applied to Parkinson's disease (PD) and aimed at social and health professionals. Both the content and the training methodology have been co-designed with people living with PD, relatives/caregivers and professionals from Spain and Italy. The course comprises3 training modules (10 units), alongside self-assessment questions, as well as case studies. Accessible open access via an e-learning platform. It is available in English, Spanish, Italian and French enhancing its applicability and transferability.

Objectives: The SUPER e-training course aims to equip members of multidisciplinary teams with knowledge, skills and competencies in IC applied to PD.

Results: The course was validated with 89 socio-health professionals in Spain and Italy (M age = 37.28; 75.28% women), who completed a questionnaire assessing the usefulness and quality of the training modules and the platform, as well as an overall evaluation of the training in terms of quality and impact. According to the them: the training could improve the quality of care offered to people living with PD; it is expected to heighten interest in IC, while also introducing novel and invaluable elements.

Conclusions: This course is useful to train professionals of different profiles (and European contexts) on IC in PC, increasing their knowledge and skills and improving the provision of care to people living with PD. The SUPER multilingual course is an innovative tool because it has been designed from a bottom-up approach and makes available to any professional a free training that can be taken online at any time.

Key messages:

- SUPER training course equips professionals from a holistic, multidisciplinary and person-centred approach to PD.
- This multilingual tool aids diverse professionals in social & health care.

Abstract citation ID: ckae144.1344
State of oral health in the Portuguese population and associated psychological and social aspects

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Background: Oral diseases are a global public health challenge and remain among the most prevalent non-communicable diseases. This study aims to characterize the self-assessment of oral health state, degree of edentulism, oral rehabilitation and the quality of life, namely chewing capacity, and the associated psychological and social aspects in the Portuguese Population.

Methods: Data were collected by telefone survey, on the 2nd half of 2018 and 1st half of 2019, using the Portuguese population representative, ECOS panel. Descriptive statistics, as well as prevalence estimates, were obtained with weighting for age, sex, region and sample design, for 95% confidence intervals. The modified F-statistic, a variant of the 2nd order Rao-Scott chi-square adjustment, was used to test the bivariate analyses.

Results: For 53% of the population, the health status of the mouth was perceived as Good or Very Good, for 37% Fair and, in 11% of cases as Bad or Very Bad. It is estimated that around 76% of the population has good oral hygiene habits, approximately 26% have all of their teeth and 8% the total absence of teeth. It is estimated that only around half (49%) underwent rehabilitation using, in the vast majority of cases (78,5%), removable prostheses. It is estimated that 32% of its users have difficulty chewing hard foods and, of these, around 20% have great difficulty or are unable to chew at all. Psychological discomfort due to oral health was higher in the Portuguese population when compared to the European population (17% vs 7 %), psychological limitations due to the appearance of teeth or dentures were equally higher (7% vs 4%), as were social limitations (8,8% vs 4%).

Conclusions: The oral health panorama in Portugal remains bleak, so strengthening the application and deepening of the national oral health promotion program should constitute a priority aspect in the development of public policies in the country

Key messages:

- Integrating oral health into general health promotion strategies and assessing oral health needs to include psychological and social aspects in the Portuguese Population.
- Strengthening the strategies that have been developed in the context of health promotion, prevention and early treatment of oral diseases in Portugal.

Abstract citation ID: ckae144.1345
Sociodemographic Disparities and Prevalence of Type 2 Diabetes Multimorbidities in Serbia

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Introduction: In many countries, including low- and middle-income nations, the prevalence of diabetes is on the rise. Type 2 Diabetes Mellitus (T2DM) is frequently accompanied by the presence of one or more long-term conditions (LTCs), however, their link to patients' socioeconomic traits remains unclear in many LMICs, particularly in the Western Balkans. Thus, our objective was to investigate the risk for the development of T2DM and one or more LTCs in Serbia among different sociodemographic population groups.

Methods: We conducted a secondary analysis of data from the National Health Surveys of 2013 and 2019, focusing on individuals aged 45 and above. Utilizing multinomial logistic regression models, we explored the relative risk ratios (RRRs), along with 95% confidence intervals (CI) and predicted probabilities, to examine the sociodemographic characteristics of participants across various disease groups, distinguishing between those with and without T2DM and one or more LTCs.

Results: The prevalence rates for comorbidities and multimorbidities of T2DM were 8.8% and 29.5%, respectively. In 2019, compared to 2013, there was a rise in the prevalence of T2DM and 1 LTC for 9.4%, and decrease in the prevalence of T2DM and 2 or more LTCs for 6,9%. Most commonly, T2DM was associated with stroke, myocardial infarction, and liver cirrhosis. The highest risk for T2DM and 1 LTC was observed for females in the most disadvantaged fifth quintile of the wealth index (RRR 1.83, 95% CI 1.09-3.07, p = 0.022) compared to those in the most advantaged first quintile.

Conclusions: Socio-economic inequalities contribute to the risk of developing LTCs in Serbia, which must be considered in the early detection and management of diseases and addressed by innovative service models. Similar studies should be conducted in the wider region to explore the feasibility of larger joint research initiatives.

Key messages:

- There are socio-economic disparities in the co-occurrence of Type 2 Diabetes Mellitus and long-term conditions in Serbia, where deprived women of older age are most at risk.
- Innovative approaches in the early identification of populations at risk for multimorbidities can help in disease management and timely prevention of complications.

Abstract citation ID: ckae144.1346
Sarcopenia and associated factors among older adults at high risk of dementia

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Background: Sarcopenia and dementia share pathophysiological pathways and risk factors, including advanced age, physical inactivity, unhealthy diet, smoking and diabetes. Older adults at high risk of dementia may face increased susceptibility to sarcopenia, which can also exacerbate cognitive decline. Thus, this study aims to estimate the frequency of sarcopenia and its associated factors within this vulnerable population.

Methods: This cross-sectional analysis includes data from a subset of older adults ($\geq$65 years of age) enrolled in the MIND-Matosinhos randomized controlled trial, a community-based cognitive decline prevention program. Per the European Working Group on Sarcopenia in Older People, probable sarcopenia is defined as low muscle strength (handgrip strength <16 kg for women and <27 kg for men). Sociodemographic, lifestyle and health-related data were collected via structured questionnaires. To assess factors associated with sarcopenia, odds ratios (OR) and respective confidence intervals (95% CI) were estimated using logistic regression.

Results: A total of 157 participants (58.6% female), with a median age of 73 years (range: 65 to 85 years), were included. The overall prevalence of sarcopenia was 21.7% (n = 34). After adjusting for sex, age and education, inadequate adherence to Mediterranean Diet (MD) (OR = 10.90; 95% CI:1.41-84.52), current smoking status (OR = 5.06; 95% CI:1.06-24.18) and poorer self-perceived health (OR = 2.74; 95% CI:1.03-7.28) were positively associated with sarcopenia. No other statistically significant associations were found.

Conclusions: The observed sarcopenia frequency underscores the need for enhanced screening and management of this condition in community settings and among those at dementia risk. Inadequate adherence to MD, smoking and poor self-perceived health, seem to be associated with sarcopenia in older adults at high risk of dementia. Sarcopenia prevention should involve a holistic approach to promoting a healthy lifestyle.

Key messages:

- Sarcopenia was observed in 21.7% of older adults at high risk of dementia, indicating a significant burden on this vulnerable population.
- Inadequate adherence to the Mediterranean diet, smoking and poor self-perceived health were associated with sarcopenia.

Abstract citation ID: ckae144.1347
Exploring Sense of Coherence and Death Anxiety among patients with Chronic Illness in Greece

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Introduction: Chronic illness often brings about existential concerns, including fear of death, which can significantly impact individuals' well-being. The concept of sense of coherence provides a framework for understanding how individuals perceive and cope with stressors, including those associated with chronic illness.

Purpose: This study investigated the correlation between Sense of Coherence, death anxiety, and chronic illness among Greek patients, aiming to understand how these factors interplay.

Methods: An electronic survey was distributed to chronic illness patients in Greece. Sense of Coherence was measured using the Sense of Coherence scale, while death anxiety was assessed using the Collett-Leste Fear of Death scale. Various chronic conditions were considered, and demographic data were collected.

Results: The final sample consisted of 118 participants (female 79.7%; death anxiety score=mean109.2, Sd = 19.2; sense of coherence score=mean55.12, Sd = 13.61). Women and the age group of 58-65 years presented higher death anxiety score followed by the group of 34-41 years. No differences were found between genders in terms of sense of coherence. The highest coherence was manifested in the age group of 50-57 years and the lowest in the age group of 42-49 years. A significant negative correlation was observed between sense of coherence and fear of death (rs(118)= -.299, p < .01). Further correlation tests were performed between axes of coherence, which indicated a stronger negative correlation in two of the three axes of the sense of coherence (Manageability and Meaningfulness) and among all the axes of fear of death, beyond the first, which concerns the loss of one's own life.

Conclusions: The study suggests that individuals with a stronger sense of coherence experience lower death anxiety. Understanding these dynamics is crucial for tailored patient interventions and support strategies.

Key messages:

- Gender and age-specific variations exist in how people approach and experience disease and mortality.
- Understanding patients' coping mechanisms and perceptions of illness is important in disease management.

Abstract citation ID: ckae144.1348
Regional variation in incidence and mortality due to hypertension in Sao Tome and Principe

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Background: The analysis of incidence and mortality due to hypertension (HT) provides statistical data for addressing public health programs, particularly in low-income countries where poor health systems impose constraints to address non-communicable diseases (NCDs). This study aims to assess the geographic pattern of incidence and mortality due to HT in Sao Tome and Principe (STP).
Methods: This is a descriptive ecological study. Aggregated data on new cases of and deaths due to HT by gender, age-group and district (2022-2023) were extracted from the Health National Database (STP Ministry of Health). Age-standardized incidence and mortality rates (ASIR and ASMR) and respective 95% confidence interval (95%CI) were obtained. Mortality-to-incidence ratio (MIR) was computed by district (lower values indicate better quality of care). Comparison between districts was done through standardized incidence ratios (SIR) and respective p-value. Analyses were stratified by gender.
Results: ASIR and ASMR per 100,000 were, respectively, 1168.9 (95%CI:1103.3-1237.6) and 76.8 (95%CI:62.0-96.2) among men and 2460.6 (95%CI:2365.0-2559.0) and 99.7 (95%CI:81.4-121.6) among women. Incidence of HT was significantly higher than expected ($p < 0.001$) in Agua Grande, Caue and Lemba with SIR varying from 122.8% (Agua Grande) to 201.1% (Caue) in men and from 125.1% (Lemba) to 224.1% (Caue) in women. Instead, Mé-Zochi presented much lower incidence than expected for both, men (SIR=43.1%; $p<0.001$) and women (SIR=38.4%;$p<0.001$). Large differences between districts were observed in MIR, varying from 0% (Caue and Lobata) to 84% (Mé-Zochi) in men and from 0% (Lobata) to 57% (Mé-Zochi) in women.
Conclusions: According to our findings there is, not only, a high incidence rate of HT, but also regional variation in this rate, deserving particular attention from policy-makers. Regional variation in hypertension incidence could be partially explained by differences in the quality of healthcare services.

Key messages:
- Awareness should be given to the high incidence of hypertension demanding preventive strategies in the field of public health.
- Public health strategies should address the quality of care in regards to the prevention, diagnosis and monitoring of hypertension.

DF. Poster display: Climate change / Urban health

Abstract citation ID: ckae144.1349
Climate change and health topics in pre-university education in Kosovo: A Content Analysis

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Background: Climate health literacy (CHL), recommended and recognized as vital for the global response to climate change and impacts on health, lacks comprehensive studies on its integration into primary and secondary school curricula. In Kosovo, where numerous environmental issues already exist and are expected to worsen due to climate change, the resulting health outcomes pose significant challenges. Moreover, the low environmental knowledge among youth further adds to the complexity of addressing these issues. This study addresses this gap by focusing on understanding and enhancing the inclusion of climate change and health topics in pre-university education.
Methods: A content analysis was conducted on: (1) core curricula, (2) subject curricula, and (3) textbooks for pre-university education (grades 0-12) in Kosovo. The outcomes of the content analysis were then juxtaposed with the CHL framework to identify alignment and gaps.
Results: We found that curricula in Grades 0-5, contained one topic on climate change and health topic out of 638 (0.16%) topics documented; however, textbooks did not elucidate this focus. Grades 6-9 had 2 out of 701 (0.28%) and the relevant textbook revealed that various environmental and health topics are covered, but that they lack exploration of the interrelatedness between environmental pollution, climate change, and health. Grades 9-12 had the highest integration with 4 out of 745 (0.54%). Textbook analysis of these grades revealed a more in-depth coverage of climate change and health linkages. In total, seven topics out of a pool of over 2000 topics encompassed learning outcomes related to climate and health in Kosovo's pre-university education.
Conclusions: The current efforts to integrate climate change and health into Kosovo's curriculum fails to meet the recommendations for achieving CHL levels. Localized and context relevant additions are needed to fulfil CHL among students in Kosovo and other countries interested in improving CHL.

Key messages:
- This case serves as a testing ground for a framework assessing climate health literacy within curricula. The results identify gaps and areas of improvement, which inform the implications to attain CHL.
- Results reveal shortcomings in the incorporation of climate change and health topics in schools, underscoring the necessity for tailored strategies to foster CHL among students.

Abstract citation ID: ckae144.1350
Exploring Climate Health Risks and Adaptations among Vulnerable Populations in Israel's Negev Desert

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Background: Climate change represents the paramount challenge to global health, disproportionately impacting particular vulnerable individuals and communities. By identifying and elucidating disparities in health-related climate risks among these groups, we can facilitate the development of appropriate and equitable climate adaptation strategies. This research identified climate-related risks, health perceptions and needs, and behaviors among Jewish and Bedouin populations in the Negev Desert, a region highly susceptible to climate change, located at the intersection of geographical and social marginality.

Methods: Ten focus groups (n = 69) among vulnerable Jewish and Bedouin residents were conducted and systematically analyzed to identify disparities in health-related climate risks and behaviors. Vulnerabilities were defined based on income, age, health status, living environment, and outdoor activities.

Results: The findings highlight both shared and distinct difficulties and barriers vulnerable Jewish and Bedouin Negev residents face in the context of climate-related health risks. Key themes that emerged address: a) the direct and indirect impacts of climate-related events on health and well-being; b) the exacerbation of climate-related health risks by existing vulnerabilities and systemic barriers; c) the pivotal role of community resources in coping strategies; and d) lack of trust in the state and its institutions which underpin climate-related experiences.

Conclusions: The complexity of coping with climate change encompasses individual, community, and national/institutional levels. Vulnerable populations' experiences with climate change are impacted by factors such as poverty, social marginality, violence, and barriers to accessing healthcare and other services, and is not a standalone phenomenon. Therefore, climate change adaptation and mitigation cannot be distinguished from other challenges impacting the health and well-being of populations.

Key messages:

- Climate adaptation efforts must integrate with broader social and health strategies to effectively support vulnerable groups.
- Community resources and trust in institutions are crucial for vulnerable populations facing climate change impacts.

Abstract citation ID: ckae144.1351
Deep learning modeling to assess surface temperature and greenery impact on emergency room access

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The escalating land surface temperature is a key environmental indicator with potential repercussions on human health. An artificial NN model was built to predict the number of ER accesses as a dependent variable, to establish the predictive power and interactions of land surface temperature and normalized differential vegetation index(NDVI), which is used to measure urban greenery.A map of Taranto was built by vector files on the Apulia region website and processed using R Studio 2023.06.2.The vector file containing the mapping of the city of Taranto was processed to obtain a 200mx200m grid of the entire surface.The Local Health Authority of Taranto provided indications of the residences of ER accesses, and coordinates were merged to gridded vector file to obtain the average of ER accesses and the socio demographic features per single grid unit. NDVI and surface temperature were averaged for July 2023 using images from Landsat 8(30m) and merged to the vector providing an average value of temperature and NDVI index per single quadrant. The dataset was divided into two db according to an 80/20 ratio respectively for the training and test dataset.A NN model was built on dichotomous value (above/below median) for each quadrant (6513 units) with hyperparameter tuning technique using the accuracy to select the best model.A MOC model was built to reduce the probability of NN detection by at least 40% in a randomly selected subject.A MOC model was built considering sociodemographic variables as fixed features and an epsilon of 0 for 175 generations and an ICE curves population initialization strategy. NNET accuracy value was 0.849 and 0.841 in training and testing, suggesting a good fitting of the model.Relative change plots were adopted to show the amount and the direction of generated counterfactuals, to reduce grid unit prediction to be over median.LST decreasing and NDVI score increasing were associated with a reduction of classification probability of grid unit.

Key messages:

- Rising land surface temperature is a critical environmental indicator with potential impacts on human health.
- Artificial neural network models perform well in predicting the number of ER accesses with respect to land surface temperature and NDVI, which is used to measure urban greenery.

Abstract citation ID: ckae144.1352
Eco-anxiety: an additional burden for university students?

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Background: Eco-anxiety encompasses climate change anxiety, including global warming, as well as anxiety about a multiplicity of environmental disasters, which not be directly caused by climate change The objective is to assess eco-anxiety in healthcare and non healthcare students and investigate a relationship with health behaviour, mental health, and environmental opinion.

Methods: A cross-sectional study was conducted among voluntary university students in the Rouen University in Normandy, France. Volunteer healthcare students aged 18 years and older were included. Eco-anxiety was assessed with the Hogg Eco-Anxiety Scale (HEAS-13). Socio-demographics, health behavior, mental health and healthcare data were also collected.

Results: A total of 1,887 students were included with 74.3% of women and a mean age of 21.1 years (SD = 6.8). The HEAS-13 mean was 13.2 (SD = 2.6): affective symptoms 4.1 (SD = 2.7), eco-rumination 3.7 (SD = 2.4), behaviour 1.0 (SD = 1.5), and anxiety about one's personal impact on the planet 4.4 (SD = 2.5). Respectively, 59.6% and 31.4% of students are moderately and very much involved in pro environmental-behaviour. 84.6% of students will consider environmental issues in their career choices. Eco-anxiety was associated with being a woman, being in curricula other than health, accommodation with roommates or in couple, use of cannabis, eating disorders, insomnia, emotional exhaustion, cynicism, depression, quality of life, and visiting a general practitioner for stress.

Conclusions: An high eco-anxiety was associated with impaired mental health and could be an additional burden for university students. Intervention options for those that do experience eco-anxiety and suffering can be as prescribing environmental action, mental health skills, and climate change resolution without imposing the burden of change solely on young people

Key messages:

- A high eco-anxiety is prevalent among university.
- The eco-anxiety impaired mental health that could be an additional burden for university students.

Abstract citation ID: ckae144.1353
Climate change and gastroenteritis projections in Albanian children

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Background: Human health can be affected by climate in direct and indirect ways. Increasing temperatures may affect ecosystems, water safety, and exposure to waterborne diseases. This is the first work in Albania aiming to demonstrate the link between gastroenteritis rate and climate in the country. This research was supported by UNICEF Albania through the WASH Global Thematic Fund, but it doesn't necessarily represent UNICEF's position.

Methods: Epidemiological surveillance reports of the period 2006-2022 were used for the yearly incidence of gastroenteritis in children 0-14 years old. Years 2020 and 2021 were not included because of pandemic confounding potential. Historic data for calculating the average summer temperatures were retrieved from timeanddate.com repository. Pearson coefficient is calculated to quantify the associations and linear regression is applied to project the increased rate in the future.

Results: There was a statistical association between gastroenteritis rate and summer temperatures during the study period (Pearson coefficient=0.78, $p = 0.001$). There was a tendency that in years with hotter summers higher incidence of gastroenteritis was reported by the health system. For each degree (Celsius) increase in the average summer day temperatures, the risk of gastroenteritis in children is expected to increase by 644/100 000 (CI 95%: 317 - 972). An excess rate of 966/100 000 is expected in the case of Intergovernmental Panel on Climate Change medium scenario projection of 1.5o C average temperature increase. That implies more than 4830 additional new cases every year in children 0-14 years old, attributed to climate change in the future in Albania.

Conclusions: The analysis demonstrated excess gastroenteritis risk may be related to higher summer temperatures observed in Albania. The expected gastroenteritis risk increase in a warmer future should be addressed by improvements in sanitation, education of parents and epidemiological intelligence.

Key messages:

- A warmer climate is expected to affect the health by increasing the risk for diarrheic diseases.
- Children will be the most at-risk population category.

Abstract citation ID: ckae144.1354
Urban burden of disease estimation for policy making

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Introduction: The Urban Burden of Disease Estimation for Policy Making (UBDPolicy) project aims to estimate the health impacts resulting from urban and transport planning related exposures in nearly 1000 European cities. So far, quantitative burden of disease assessments have estimated premature mortality attributable to the environmental stressors of air pollution, noise, urban heat islands and lack of green space for the year 2015. Regular reporting and trend monitoring of the health impacts associated with urban environments is crucial for assessing the wider impacts of urban and transport planning.

Methods: For almost 1000 European cities, quantitative Health Impact Assessments (HIAs) will be conducted that employ the comparative risk assessment methodology. Baseline exposure levels of air pollution, noise, urban heat islands and green space will be estimated and preventable health impacts modelled using counterfactual exposure scenarios. Analysis will comprise two components: firstly, the 2018 HIA will incorporate multiple environmental exposures for that year, while the second component will monitor trends at three-yearly reporting intervals covering the years of 2015, 2018, 2021 and 2024.

Results: Results are intended to shape evidence-informed urban planning and policies throughout Europe. By ranking cities according to environmental exposures and health impacts, cities are encouraged to address challenges and learn from successful urban design and planning policies in other cities.

Discussion: HIAs serve as an effective tool for identifying the health impacts of current and future urban policies. The provision of burden of disease estimates will provide policy-makers and practitioners robust data for informed decision-making, while estimates over time will allow tracking of changes from implemented policies. To fully harness the potential of cities as key drivers of sustainable and healthy living, robust evidence must be at the forefront of this change.

Key messages:

- A multitude of urban and transport planning pathways contribute toward the health of urban populations.
- Compact city designs often promote health, however there are exceptions.

Abstract citation ID: ckae144.1355
Is health being considered by funding towards climate adaptation and mitigation?

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Introduction: Funding is essential to build climate resilience in public health and healthcare systems and enable populations to adapt to the increasing impacts on climate change on health across the globe. This study aimed to investigate how health has been considered by the projects supported by the Green Climate Fund (GCF), created by the Paris Agreement to support climate adaptation and mitigation.

Methods: Adaptation, mitigation, and cross-cutting projects funded by the GCF between 2021 and 2023 were included. Information was collected for the percentage of funding allocated to health adaptation by cross-cutting and adaptation projects. For mitigation projects, information was extracted on the extent to which health co-benefits were considered.

Results: The 69 adaptation and cross-cutting projects funded by the GCF in 2021-2023 contributed $226 million towards adaptation, of which $59 (26%) million were for health adaptation. There was an increase in the funding provided by the GCF to adaptation from $1 million in 2021 to $156 million in 2023. Funding for health adaptation increased from $178,000 in 2021 to $42 million in 2023. Of the co-funding provided by beneficiaries, $637 million contributed to adaptation and $165 (26%) million to health adaptation. There was an increase in co-funding for adaptation provided by beneficiaries from $131 million in 2022 to $506 million in 2023, with funding for health adaptation increasing from $23 (18%) million to $142 (28%) million. Among the 48 mitigation and cross-cutting projects, 15 did not mention health, 13 mentioned did not correctly articulate health co-benefits, 11 identified specific health co-benefits, and 9 correctly labelled and measured health co-benefits. The main co-benefits derived from reducing air pollution.

Conclusions: Among the projects funded by the GCF, funding for health adaptation remains a small proportion of the adaptation funding and health co-benefits are rarely considered by mitigation projects.

Key messages:

- The proportion of adaptation funding provided for the health sector remains low.
- Health co-benefits are seldom considered and measured by climate mitigation projects.

Abstract citation ID: ckae144.1356
Effect of climate change on West Nile virus transmission in Italy: a systematic review

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Background: West Nile Virus (WNV) is a pathogen transmitted by mosquitoes of the Culex genus, affecting both humans and animals such as horses and birds. The prevalence of WNV infection has increased dramatically in recent years in Europe, especially in Italy, and has been related to climate and environmental changes linked to global warming. Our review aims to assess the relation between the spread of WNV in Italy and the different climate change-related factors.

Methods: We conducted a literature search in the PubMed, Web of Science, Embase and Scopus databases, actualised as of 20 February 2024, using as search terms WNV, its vectors and climate change, and limiting our analysis to studies conducted in to avoid an overly heterogeneous setting. We registered the review in PROSPERO (CRD42023430636).

Results: Of the 252 unique records retrieved, we eventually included 25 articles after full-text screening. These studies were published between 2011 and 2023 and evaluated the distribution of WNV or its vectors according to various climatic and environmental factors. Despite rather heterogeneous results, we found a consistently positive association with temperature, especially spring temperature, agricultural land use, demography, and soil moisture, and a negative one with evapotranspiration and wind, while the relationship with other environmental variables and water cycle-related factors was weak, null or conflicting.

Conclusions: Despite some inconsistencies in the results, likely related to differences in study methodologies as well as complex environmental interactions, we found unequivocal evidence that climate change-related factors, such as the lengthening of the warm season, extensive farming, and invasive human activities towards natural environments, favour WNV spread in Italy. Consequently, actions against global warming and preservation of natural environments may counteract the WNV epidemic.

Key messages:

- WNV epidemic seems to be linked to specific climate change-related factors, such as the lengthening of the warm season, extensive farming, and invasive human activities towards natural environments.
- Actions against global warming and preservation of natural environments may counteract WNV spread.

Abstract citation ID: ckae144.1357
Climate change health challenges – a study on heat health-related adaption measures in Germany

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Problem: Increasing extreme heat events of summer 2003, 2010 and 2015 induced a rising impact on heat health morbidity and mortality in Germany. A considerable proportion of urban population is affected by thermal discomfort due to the urban heat island burden during summer, particularly vulnerable people at risk. Concerted action to develop appropriate heat health adaptation measures is needed.

Description: As part of the National Adaptation Strategy to Climate Change an expert working group published ‘Recommendations for Action for the Preparation of Heat Action Plans’ for Germany in 2017. A first country-wide project had been conducted between 2019 and 2023 which investigated the status and impact of current or planned Heat Health Action Plans (HHAP), and adaptation measures appropriate to protect and prevent human health. As part of this project an online survey was conducted in May/June 2020 on the awareness and degree of use of the 2017 recommendations and the development and implementation of HHAP.

Results: This survey had been carried out to assess the current state of affairs as well as factors of success and barriers in the development and implementation of HHAP, with a particular focus on municipal environment and health administrations. In total 116 questionnaires had been responded, mainly by participants from the environment sector (53%), and 32% from the public health sector. More than half of the respondents indicated to be aware of the recommendations (very well-known at the federal state level: 90%, at county level known by 43%), which were identified as very helpful by 81%. Respondents from large cities (> 100 000 inhabitants) were main contributors to the study (41 of 81 large cities replied; 34 rural counties responded).

Key messages:

- The 2017 recommendations had been identified and used to start with HHAP.
- Decision makers should develop structures for regulations that anchor HHAP as a nationwide instrument to be established timely.

Abstract citation ID: ckae144.1358
Climate change and its health effects - an optional subject for medical students

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The Standing Committee of European Doctors urged to include training on the impact of climate change on health for health professionals. Currently, in the curriculum of most medical schools, the health-related impacts of climate change represent a peripheral part. The teaching of health effects of climate change should be made part of the training of health professionals and should be introduced in the curriculum of medical schools. ClimateMed is an Erasmus project that improves the curriculum and expands knowledge about the health effects of climate change at medical universities. The World Café method, based on round table discussions, was applied to assess the needs, summarize the proposals, and develop the necessary strategy. At the same time, a questionnaire was applied to those medical students from UMFST Targu Mureș who chose this subject as an optional subject. Students related the importance of understanding the diseases caused directly or indirectly by climate change, and reported what kind of topics should be included in a new course, in which semester/module and in what format it would be appropriate to teach it. The most frequently reported topics were: excessive heat and heat-related illnesses, extreme weather, vector-borne diseases, food safety, air pollution, and mental health. According to the goals of the project and students' opinions, since 2023 medical students can choose Climate Change and Health Effects as an elective course. Based on the demand for medical universities to include in their curriculum knowledge related to the health effects of climate change, ClimateMed project can facilitate this integration and can promote the increase of teacher motivation and the development of methodological guidelines for university teachers. The project contributes to the preparation of some educational materials and the introduction of an optional subject in the training curriculum of the students of the Faculty of Medicine, UMFST Targu Mureș.

Key messages:

- There must be made efforts to include training on the impact of climate change on health for health professionals, to introduce this subject in the curriculum of medical schools.
- ClimateMed project can facilitate the integration of knowledge about the health effects of climate change into curriculum and can promote the practical use.

Abstract citation ID: ckae144.1359
Heatwaves, Hospitals, and Health System Resilience in England: A Qualitative Assessment (Summer 2019)

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Background: Frequent heatwaves challenge healthcare delivery in England, affecting patient safety and staff welfare. This study addresses the observational gap in how healthcare settings adapt to extreme weather.

Methods: We utilised a qualitative approach, conducting semi-structured interviews with fourteen NHS staff across England to explore experiences during the 2019 summer heatwave. Participants included clinical and non-clinical personnel, providing broad insights into operational challenges and adaptive strategies.

Results: The 2019 heatwave significantly disrupted service delivery, with variable staff awareness of the Heatwave Plan for England affecting responses. Key issues included managing infection control versus electric fan usage, impacting patient and staff comfort and safety. These conditions also led to an increase in hospital admissions.

Conclusions: The findings highlight the need for improved workforce training and strategic planning to enhance resilience to heat-related risks. Further research is essential to develop a comprehensive evidence base on the impacts and costs of heatwaves and to assess the effectiveness of adaptation strategies. This will support national health adaptation planning and emergency response.

Key messages:

- Enhanced planning and training are crucial for health system resilience to heatwaves.
- More research is needed to understand heatwave impacts and effective responses.

Abstract citation ID: ckae144.1360
Advancing urban health in Portugal: exploring liveability and its association with mental morbidity

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Background: As cities face challenges posed by urbanisation, it becomes essential to understand how city planning can contribute to protecting public health. In this study, we aimed to assess the liveability of different areas in Lisbon, Portugal, by developing a liveability index at the parish level. Secondly, we aimed to explore its association with hospitalisation due to mental disorders.

Methods: The liveability index was built based on the World Health Organisation's Urban Health Index methodology. We obtained data on liveability related to housing, socio-economic conditions and access to services (e.g. healthcare) from the 2011 census and other open data sources for Lisbon's parishes ($n = 22$). Data on hospital admissions due to mental disorders was sourced at the parish level from the national database for hospital morbidity for the period 2013-2016 and sex-age-standardised. Binomial negative regression was employed to estimate the association between the liveability index tertiles and observed hospital admissions. We used the expected number of hospitalisations as the offset variable and tested for spatial autocorrelation among the regression residuals.

Results: Our analysis showed that living in the most liveable parishes is associated with a significant decrease in the standardised admission ratio due to mental disorders, compared to living in the least liveable areas (Incidence Relative Ratio=0.643; 95% CI: 0.427, 0.967). We did not observe any geographical pattern in the regression residuals (Moran's I= -0.035, $p = 0.427$).

Conclusions: Our findings show disparities in liveability among Lisbon's parishes and identify a protective association between living in higher liveability areas and hospital admissions due to mental disorders. This work should prompt further studies concerning this subject to inform urban planning policies to improve liveability and equally reduce the risk of mental health-related harm within cities.

Key messages:

- A spatial index to assess liveability in urban areas was developed. The association between the liveability of Lisbon's parishes and hospital admissions due to mental disorders was explored.
- We found a significant protective association between higher liveability and hospital admissions due to mental disorders. This work is relevant to inform the implementation of urban planning policies.

Abstract citation ID: ckae144.1361
Association between number of hospitalizations of older adults and heatwaves in Slovenia 1999-2018

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Background: Heatwaves frequency, intensity, and duration increase with global climate change. The association between heat and mortality in older adults is well documented, but less is known about associations with hospitalizations. Knowing which diseases contribute to a higher number of hospitalizations during heatwaves is important for planning appropriate public health preventive measures.

Methods: We assessed short-term association between the number of hospitalizations for older adults (75+ years) and heatwaves in the years 1999 to 2018 in Slovenia. We estimated the relative risks (RR) with 95 % confidence interval for the number of hospitalizations for the observed diagnosis (all causes, circulatory, respiratory, endocrine and genitourinary diseases) and gender associated with heatwaves in Slovenia for each year, comparing the number of hospitalizations during heatwaves with reference days.

Results: We could not find an association between heatwaves and hospitalizations for all cause hospitalizations in all observed years. In some years the association was even negative. In cause specific analyses heatwaves were associated with increased hospitalizations for endocrine diseases in 2012 (32%; 95% CI: 1%, 73%), 2013 (23%; 95% CI: 5%, 33%), 2014 (48%; 95% CI: 4%, 110%) and 2015 (42%; 95% CI: 7%, 89%), but not for cardiovascular, respiratory and genitourinary diseases.

Conclusions: Older adults are most susceptible to the effects of extreme heat due to physiological changes that occur with aging, chronic diseases, certain medications, a sedentary lifestyle and social isolation. The results of our study will help in planning appropriate preventive public health measures to better protect older adults during the next heatwaves in Slovenia.

Key messages:

- Heatwaves will become longer, more frequent and more intense in the near future.
- Endocrine diseases are the most important cause for hospitalization during heatwaves. Public health measures shoud adress these most vulnerable groups.

Abstract citation ID: ckae144.1362
Association between the education level and heatwaves mortality in Slovenia, 2015-2022

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Background: So far only a few studies have addressed the heat related mortality risks associated with socioeconomic factors. The study aimed to determine whether low education is associated with more deaths during heat waves, which in turn leads to health inequalities linked to climate change.

Methods: In this time series study, we assessed the association between the level of education in three Slovenian climate regions and mortality during the heatwaves from 2015 to 2022. We estimated the relative risks (RR) with 95 % confidence interval for the number of deaths due to all causes among persons with three different levels of education associated with heatwaves in three Slovenian climate regions independently, comparing the number of deaths during heat waves with the reference days.

Results: Continental and Littoral Climate: We found no statistically significant association in the number of deaths due to all causes during heatwaves according to the three levels of education. When comparing these three levels to each other (Relative Risk Ratio), we found no statistically significant differences between them. Transitional Climate: For the second education level (middle education) we found statistically significant increase in number of deaths due to all causes (12%; 95% CI: 2%, 23%). When comparing the three education levels to each other, we found statistically significant decreased number of deaths in the first education level (low education) compared to second (-13%; 95% CI: -24%, -1%).

Conclusions: When assessing the effects of climate change on health and planning preventive measures, it is necessary to consider both socioeconomic factors and the characteristics of different climate regions in Slovenia. Further studies are needed.

Key messages:

- Heatwaves will contiue to be more intense, longer and more frequent also in Europe.
- Not many studies assessed association between social status and mortality durin heatwaves. WE found statistically significant more deaths in middle class education group. Further studies are needed.

Abstract citation ID: ckae144.1363
Public perceptions of the health impacts of climate change: a survey study in Greece

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Background: Climate change is the biggest global health threat of the 21st century. Despite the tremendous challenges, many people remain unaware of the human health implications of climate change. People perceptions about the health harms of climate change can increase public support for the action needed to reduce climate change. The aim of this study was to examine the public perception of climate change as a human health issue in Greece.

Methods: A population survey study was conducted from October to December 2023 in the municipalities of Messini and Alexandroupoli, Greece, following proportional quota sampling. A questionnaire was developed and included measures about the socio-demographic background of participants, their understanding of key facts about climate change and their views about climate change thread to human health.

Results: 406 individuals with a mean age 37.7 (sd = 14.8) participated in the study. Participants understood that climate change is happening (93.6%) and 54% of them think climate change is mostly or entirely caused by human activities, whereas 38% think it is caused equally by human activities and natural causes, and about 8% think climate change is mostly or entirely caused by natural causes. A majority of participants reported that climate change has adversely affected the health of people in various way, either a moderate amount or a great deal, including physical or mental harm from forest fires (90%), physical or mental harm from storms and floods (87%), heat-related illnesses (82%), illness due to reduced outdoor air quality (70%) and loss of housing for residents displaced by extreme weather events (70%).

Conclusions: Participants viewed climate change as an important cause of health harm, however they partially understood that climate change is caused by humans. Public health authorities should educate the public and policymakers about the climate change and advocate for policies to address the human health challenges of climate change.

Key messages:

- Public health authorities should educate the public and policymakers about the climate change problem and its impact to human health.
- Providing people with information about the health harms of climate change can increase public support for the actions needed to reduce emissions.

Abstract citation ID: ckae144.1364
A questionnaire to assess ecoanxiety and its sociodemographic determinants among Italian adolescents

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Background: Climate change poses serious challenges to Public Health, including mental health impacts. In Italy, few studies investigated the rise of eco-anxiety, especially among adolescents, who are the main group affected by this feeling. Specific measurement tools for this population are needed to fill this gap. The aim is to adapt the Italian version of the Climate Change Anxiety Scale (CCAS) to adolescents, and pair it with a socioeconomic and demographic questionnaire (SDQ) to assess determinants.

Methods: The Italian CCAS was modified for adolescents through a process involving a literature review, expert discussions, and a pretest. This adapted version (a-CCAS) was tested with individuals aged 14-18 years old, maintaining an ideal ratio of 10 respondents per item. Extant psychometric scales were utilized to assess its validity. The SDQ was developed from results of a systematic review of known associations between socioeconomic and demographic factors and eco-anxiety in youth, and expert discussions, and validated by piloting the SDQ with another sample of adolescents. Internal consistency of the a-CCAS and SDQ was assessed by Cronbach's alpha (Cα).

Results: The a-CCAS kept most of its original content, comprising 13 items and 2 subscales: cognitive and functional impairment. Pilot respondents were 162; Cα coefficient was >0.7 for both subscales. Convergent and concurrent validity showed positive correlations with the extant scales. The SDQ comprised 12 items in 3 domains: family, social and political-environmental determinants. Respondents were 47 and Cα coefficient was >0.7.

Conclusions: The a-CCAS and SDQ are valid tools for assessing baseline eco-anxiety and its determinants in Italian adolescents and can contribute to Public Health efforts to reduce the climate-related mental health burden, by measuring the impact of specific educational interventions about climate change targeted at the young. This questionnaire was created as part of the PRIN P2022JJ3LB project.

Key messages:
- These results contribute to filling an evidence gap on eco-anxiety and its socioeconomic and demographic determinants among Italian adolescents by providing researchers with a valid measurement tool.
- This tool holds promise for assessing the impact of psychologically-informed educational interventions about climate change and adaptive coping strategies on adolescents' eco-anxiety levels.

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Greening the mind: exploring the link between vertical gardens, urban forests, and mental health

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Background: Mental disorders impose a significant global burden, affecting millions of individuals, contributing to disability, reduced quality of life, and economic costs worldwide. Between 1990 and 2019, the global number of disability-adjusted life-years due to mental disorders increased from 80.8 million to 125.3 million. The economic costs are projected to rise to 6,000 billion euros by 2030. Urbanization has been associated with a worsening of mental disorders over the years due to various factors, such as increased stress, social isolation, reduced access to green spaces, and higher levels of pollution. Decades of research have instead shown that exposure to green space may promote psychological well-being, regulate stress, and endorse social health across the lifespan. In this systematic review, we aim to investigate how proximity to vertical gardens or urban forests, specifically, may affect mental health.

Methods: The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were followed. The study protocol was registered in PROSPERO (CRD42024517969) with the following PECOS question: Is there an association between vertical gardens or urban forests and mental health?

Results: After performing searches on PubMed, Scopus, and Web of Science, and duplicate removal, we retrieved 556 articles. The main reasons for exclusion after title/abstract screening were mainly wrong outcome (not mental health) and wrong study type (not observational/intervention/cross-sectional studies). The selection of full texts is expected to end shortly and results will be available for November 2024. Preliminary findings support the role of green environmental assets in facilitating physical activity, social contact, and stress reduction.

Conclusions: In summary, mental disorders are exacerbated by urbanization's stressors. Our review will further elucidate the potential benefits of urban green spaces like vertical gardens and urban forests on mental health.

Key messages:
- Urbanization exacerbates the issue of mental disorders global burden.
- Exposure to urban forests and vertical gardens may promote physiological well-being and mental health.

Abstract citation ID: ckae144.1366
Flooding and Mental Health interventions for vulnerable groups

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Issue/Problem: The UK is increasingly vulnerable to flooding due to climate change, which significantly affects mental health. Vulnerable populations are disproportionately impacted, experiencing stress, anxiety, and other severe mental health issues, requiring effective intervention strategies.

Description of the problem: The UK's third Climate Change Risk Assessment (CCRA) highlights flooding as a key challenge, with mental health impacts representing a major health burden. Effective interventions are crucial for these communities.

Results: UKHSA's flooding and mental health guidance is incorporated into flooding and health advice documents for the public and frontline responders. It includes assessment and support strategies for health and social care staff, emergency responders, and local authorities. It focuses on those most at risk and promotes a phased approach to care-from immediate safety and shelter to long-term psychological support. This strategy accommodates the prolonged nature of mental health recovery, requiring adaptable and sustained interventions.

Lessons: Addressing the mental health impacts of flooding demands a comprehensive, multi-phase strategy that adapts to the evolving needs of affected populations. Early intervention and long-term support are vital to mitigate the extensive psychosocial damage.

Key messages:

- Flooding severely affects mental health, necessitating structured, long-term interventions.
- Flexible support strategies that evolve over time are crucial for effective recovery, ensuring that interventions meet the changing needs of those impacted by flooding.

Abstract citation ID: ckae144.1367
Public health effectiveness of cooling centres in adverse hot weather events: a systematic review

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Background: The 2022 heatwave in England highlighted the need for effective public health interventions like cooling centres in temperate climates where built-in air conditioning is uncommon.

Aim: To determine the impacts of cooling centres on heat-related health outcomes for users in temperate climates, assessing their effectiveness and identifying barriers to usage.

Methods: This systematic review analysed literature sourced from MEDLINE, Embase, Web of Science, CENTRAL, and Google Scholar from January 2010 to February 2023. Criteria for inclusion focused on studies evaluating health outcomes related to cooling centre use. Screening and quality assessments were independently conducted using the Mixed Methods Appraisal Tool.

Results: The review included six studies: three quantitative, three qualitative. Two were evidence synthesis of prior studies. No studies conclusively measured health and wellbeing outcomes directly after cooling centre use; instead, research emphasised user demographics, barriers, and facilitators. Common barriers included accessibility, operational hours, and public perceptions, which often misalign with user needs. Successful implementations were noted in centres integrated within community facilities like libraries or community centres. One modelling study suggested a number needed to treat to avoid one heat-related death of 1 million. The relevance of this is unclear as it was in a hotter climate with greater prevalence of air conditioning than in England.

Conclusions: While direct health benefits in cooler climates like England are poorly documented, cooling centres play an essential role in comprehensive heat response strategies. They offer potential social benefits and provide a cost-effective alternative to urban redesign. Future studies should aim to directly measure health outcomes and refine operational strategies to maximise benefits.

Key messages:

- Cooling centres are crucial in comprehensive heat response strategies, yet direct evidence in cooler climates like England remains limited.
- Integration with existing community services may significantly enhance cooling centre utilisation and effectiveness.

Abstract citation ID: ckae144.1368
From Pandemic to Heatwave: Digital Strategies for Health Resilience

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Heatwaves threaten public health in the EU, as evidenced by the high heat-related mortality in the summer of 2022. Despite their frequency, European heat-health action plans (HHAPs) largely exclude digital solutions. The COVID-19 pandemic shifted perceptions and use of digital health tools, demonstrating their effectiveness in responding to health crises and providing insights for heatwave management. This work explores the potential of further including digital health interventions into European HHAPs. The objective is to identify adaptable digital strategies to mitigate heatwave health impacts. We started by analyzing WHO's guidance on the creation of HHAPs, as well as the European Observatory on Health Systems and Policies' assessment of the four main areas supported by digital health tools during the pandemic. Later, we proposed four main areas where digital health solutions could be efficiently integrated. Each area underwent a rapid literature review to identify digital solutions used during COVID-19, followed by a critical analysis for applicability in heat-health action planning. We identified four areas where the implementation of digital tools should be explored: Communication and Information Dissemination (focusing on raising awareness among vulnerable groups, caregivers, and organizations); Modeling and Forecasting (developing precise forecasts for proactive planning); Health services coordination (among services delivering immediate care during heatwaves); Monitoring and Population Surveillance (implementing strategies to identify and mitigate heat-related risks e.g. among vulnerable populations). Results indicate that digital health solutions from COVID-19 can enhance national HHAPs. Tools for pandemic prevention and response are applicable to extreme weather events. The pandemic's increased digital usage resulted from policy changes and infrastructure investment - leveraging these advancements could prepare Europe for extreme heat threats.

Key messages:

- Results indicate that digital health solutions from COVID-19 can enhance national HHAPs. Tools for pandemic prevention and response are applicable to extreme weather events.
- The pandemic's increased digital usage resulted from policy changes and infrastructure investment - leveraging these advancements could prepare Europe for extreme heat threats.

Abstract citation ID: ckae144.1369
Clean-up actions as catalysts for sustainability and physical activity promotion

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Issue: The convergence of global sustainability and health promotion implies integrated policies and actions. Initiatives like the European Green Deal and the UN's Sustainable Development Goals emphasize the urgent need to address climate change while promoting health through behaviours such as physical activity (PA).

Description: We explore the relationship between PA, sustainability, and health outcomes, highlighting the European Green Deal's impact on PA promotion and the 2030 Agenda for Sustainable Development's alignment with health behaviours. In addition, we further discuss the concept of "green exercise" and provide insights about how eco-friendly initiatives (e.g., plogging) may have dual benefits in both individual and environmental domains.

Results: Emerging eco-friendly activities, including plogging, plalking and pliking, directly benefit the environment, while holding the potential to contribute to PA accumulation. Walking while picking up litter (i.e., plalking) can represent up to 4-5 metabolic equivalents (METs), which corresponds to performing a moderate-intensity PA. If other activities - running or cycling - are performed while picking up litter, the number of METs (i.e., >6 METs) involved may correspond to performing a vigorous-intensity PA.

Lessons: The physiological impact of eco-friendly activities, such as litter picking, reveals their potential as moderate to vigorous-intensity PA, favouring compliance with WHO PA recommendations (i.e., 150 min/week). Integrated policies and actions are needed to address global challenges effectively, emphasizing the interconnectedness of PA promotion, sustainability efforts, and health outcomes.

Key messages:

- Engaging in green initiatives fosters PA and supports the United Nations' goals for health and sustainability.
- Plogging and similar eco-activities offer dual benefits: cleaner environments and healthier lifestyles.

Abstract citation ID: ckae144.1370
Finding cool spaces in Frankfurt/Main–a heat protection measure for the population of a major city

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With the European continent heating up faster than ever, cities are facing major challenges protecting their population from the effects of climate change. Heat can have devastating effects on people's physical and mental health with particular significance for the known vulnerable groups - the elderly and young children, people with pre-existing conditions, those who are pregnant and those who cannot protect themselves sufficiently for various reasons plus of course people working outdoors. Following the 2003 heat wave, the city of Frankfurt/Main registered a significant rise in mortality and morbidity, leading the Health Protection Authority to be increasingly concerned with heat-related health problems in the Frankfurt metropolitan area. The city has since developed various systems to protect the population from extreme heat and developed an all-encompassing climate change action plan (CCAP). Part of the CCAP is the provision of cool spaces to provide refuge from the heat for the public and implementation of this project started in the summer of 2022. However, with no legislative basis on which to build such a platform, some creative measures were required to ensure its success. Here, we will not only present the challenges we faced but the solutions we found - and the results of our currently ongoing evaluation of the actual use of our cool spaces to help other cities make their journey to similar measures easier. Starting with a brief overview of the CCAP, we will show the cool spaces' place within the strategy, followed by our original plan of action and what happened when this plan came into contact with the reality of life in a large and diverse city. We will touch on climate injustice and the difficulties in reaching those parts of the population who actually need protection the most. Finally, we present our evaluation strategy and results together with the adjustments we are considering in moving forward with this climate change protection measure.

Key messages:

- (Establishment of) climate change adaptation measures should urgently be enshrined in law.
- Health inequality corresponds to climate inequality and continiously challenges adaptation measures.

Abstract citation ID: ckae144.1371
Contributing to healthier populations by reducing energy poverty via innovative financial models

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Issue/problem: Energy poverty is a major challenge affecting 9.3% of the EU population (EUROSTAT 2022). Health problems attributable to energy poverty include respiratory diseases, heart attacks, stroke, and mental disorders. Governments must act quickly and intervene with policies and programmes that reduce energy poverty and promote citizens' health and well-being.

Description of the problem: We propose Social Impact Bonds (SIBs), a new family of instruments that address serious social challenges, to finance interventions targeting energy poverty,improving the health and well-being of households in a context of limited public resources. For this purpose, data from interventions to increase energy efficiency and combat energy poverty implemented during one year in 6 pilot sites in the framework of the EU project WELLBASED are used. First, a compliance check will be carried out, followed by an estimation of the costs, savings, and benefits of the application of SIBs to finance energy poverty reduction interventions with an impact on health.

Results: The results of the analysis will show whether the intervention to reduce energy poverty meets the necessary characteristics for a SIB to be implemented. In addition, the possible key actors that could lead its implementation are identified.

Lessons: If the interventions for the reduction of energy poverty carried out under the WELLBASED project are successful, SIBs could be considered as a valuable alternative to finance interventions that combat energy poverty and increase the well-being of citizens. Key knowledge on how to apply SIBs makers to tackle a serious social issue with important consequences on health will be at disposal of (EU and worldwide) local authorities and policy.

Key messages:

- Energy poverty is a public health issue, requiring urgent support measures.
- SIBs fund interventions via public-private collaboration to fight energy poverty and boost citizen wellbeing.

Abstract citation ID: ckae144.1372
Urban Green Spaces on Maternal Sleep Quality One Year Postpartum Amid COVID-19 Alert Level Changes

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Background: Benefits of green spaces (GS) on sleep quality were found, particularly for mothers, which, in turn, contributed to maternal health and offspring development. However, the COVID-19 pandemic imposed restrictions on environmental access, potentially altering the influence of urban GS on sleep quality. This study aims to explore the impact of urban GS on maternal sleep quality one year postpartum during the pandemic.

Methods: Participants were drawn from the Longitudinal Examination across Prenatal and Postpartum Health in Taiwan study, tracking individuals from early pregnancy across five hospitals in Taipei since 2011. We utilized data spanning from 2019 to 2024, with May 2021 (the initial soft lockdown due to community spread) serving as the cutoff point to delineate early and late pandemic stages. Self-reported sleep quality one year postpartum was assessed using the Pittsburgh Sleep Quality Index. Residential GS was evaluated using the Normalized Difference Vegetation Index (NDVI) within various radii (250m to 2000m). Multiple logistic regression was utilized.

Results: From the 311 participants, in the early stage of the pandemic, an increase of 0.1 units in NDVI within a 250m radius during both prenatal and postnatal periods (0-12 months) was associated with improved maternal sleep quality (OR = 1.57; 95% CI = 1.08, 2.32, and OR = 1.58; 95% CI = 1.07, 2.30) after adjustments. The impact diminished as the radius increased. Additionally, no significant association was found during the late stage of the pandemic across any of the studied radii.

Conclusions: The findings suggest a positive correlation between proximity to urban GS and maternal sleep quality during the early stages of the pandemic, with more significant benefits observed at shorter distances, likely due to restricted movement and access. These results underscore the importance of proximity in urban planning and environmental improvement initiatives aimed at enhancing maternal and child health.

Key messages:

- Urban green spaces significantly enhance maternal sleep quality one year postpartum in the early stages of the pandemic, highlighting the importance of proximity for health benefits.
- As the radius of green spaces decreased, their positive impact on maternal sleep quality during the early pandemic intensified, underscoring the need for adaptive urban planning strategies.

Abstract citation ID: ckae144.1373
Investigation of Global Climate Change Awareness Levels Among Faculty of Medicine Students

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Background: According to the WHO, climate change is the biggest threat to global health in the 21st century. Thus, it is important to understand medicine faculty students'-who are future doctors-awareness of climate change and its effects on human health. The aim of this study is to determine the level of awareness of Inonu University Faculty of Medicine students about global climate change.

Methods: This descriptive cross-sectional study was conducted between February and March 2024. The target population consisted of 1692 students studying in a medical university. The sample size was calculated as 260 students based on a percentage of awareness of global climate change of 32.3%, and 283 respondents were included in the study. A questionnaire was used that included questions about the respondents' sociodemographic characteristics and global climate change awareness. In addition, they answered the items of the Awareness Scale of University Students About Global Climate Change (GCCAS). The dependent variable was total GCCAS scores, and the independent variables included age, concern about climate change, and knowledge status. A Student's t-test was used in the statistical analysis.

Results: Of the students, 50.2% were female, 51.6% were older than 22 years of age, 82% were worried about the negative effects of climate change, 79.5% said they received no education about climate change during their medical education. The mean total GCCAS score in the study group was 71.74 +/-13.81. Women, students who were concerned about climate change, and those who had knowledge about climate change had significantly higher mean GCCAS scores ($p < 0.05$).

Conclusions: More than 75% of study group said that they had received no education about climate change. However, the percentage of students who were aware of and concerned about climate change and who had information about climate change was even higher.

Key messages:

- Due to the potential for medical students to encounter the health effects of climate change, these issues should be included in education programs to increase their awareness of this important issue.
- Medical students need to take conscious and informative steps regarding climate change to help protect the health of future generations.

Abstract citation ID: ckae144.1374
Climate Change, Air Pollution, African Dust Impacts on Public Health and Sustainability in Europe

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Climate change poses a significant threat to environmental sustainability and public health, leading to extreme weather events, rising sea levels, and biodiversity loss. Research on air pollution from African dust adversely associated with climate change highlights its significant role in trapping heat in the atmosphere and causing heat-related illnesses, cardiovascular disorders, and respiratory ailments. Smog, dust, acid rain, and ozone depletion also negatively impact ecosystems. The methods of the study also include the dynamics of climate change-induced air pollution. The implications for public health and environmental sustainability through GWR modeling and MODIS-NDVI analysis of controlling air pollution are crucial for reducing the climate crisis, safeguarding public health, and maintaining ecosystem sustainability. Results from particulate matter (PM 2.5-10), which consists of tiny particles with varying diameters, can enter the respiratory system through inhalation. This can lead to a diameter of less than 10 μm (PM 2.5-10). According to the relevant legislation, the limit value refers to the daily average value and must not exceed 50 μg/m3. While ozone in the stratosphere serves a protective function against ultraviolet radiation, excessive levels at ground level can be harmful and have been recorded in atmospheric samples ranging from 146.6 μg/m3 up to 702.3 μg/m3. impacting the respiratory and cardiovascular systems. Policy leaders, businesses, and individuals need to be proactive in reducing air pollution, adopting clean energy technology, and implementing stricter pollution rules. Stricter pollution rules, environmentally friendly transportation choices, and the adoption of clean energy technology. The sustainability of the ecosystem and public health are significantly impacted by climate change linked to air pollution. To solve these global problems and move toward a healthier, cleaner future for future generations, we must act now on climate justice.

Key messages:

- Examine the impact of African dust air pollution on public health and its significant impacts from climate change, provide solutions to mitigate its effects on environmental sustainability in Europe.
- Public health workers, Policymakers and stakeholders must prioritize reducing emissions and enforcing strict air quality laws to mitigate the negative impact of African dust on European populations.

Abstract citation ID: ckae144.1375
Ensuring sustainable impact of the national report on climate change and health in Germany 2023

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Issue/problem: The Robert Koch Institute recently coordinated a status report on climate change and health for Germany, detailing the current and future impact of climate change on health through 14 chapters.

Description of the problem: A central aim was to ensure the report's long-term impact and public health value. Essential areas of focus have therefore been stakeholder-specific communication and establishing a network of experts for continued scientific exchange.

Results: The publication of the report as peer-reviewed articles has served to reach the scientific community. Another target group are public health practitioners and decision makers at subnational levels, who can contribute towards climate change mitigation and adaptation measures relevant to health, as recommended in the report. This latter group was reached through various methods and formats of science communication, including conferences aimed at the public health sector, through target-group oriented podcasts, social media engagement and digital town hall discussions. Following publication, the experts involved in writing, reviewing and using the report were invited to establish a network in order to support long-term scientific exchange and collaborations and in turn ensure the report's sustainable impact and value.

Lessons: Through follow-up evaluations, the reception of the report and the further communication needs of this target group were analysed. A major lesson was to include the insights of public health practitioners more systematically and at an earlier stage in any future reports. As for the establishment of a network, a survey amongst the authors and other experts showed what this group considers the goals of this network: creating synergies and connections with existing initiatives and providing a platform for further exchange, especially amongst researchers addressing similar questions, such as the efficacy of mitigation and adaptation measures, from different angles.

Key messages:

- Local public health practitioners are important stakeholders for climate change and health for ensuring public health impact.
- The expertise in the network will support continued scientific exchange on climate change and health and thus ensure the national report's sustainability.

Abstract citation ID: ckae144.1376
Building bridges in Climate Pact activities and Climate Action - example from Serbia

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The European Climate Pact is a movement of citizens united around a common cause, each taking steps in their own worlds to build a more sustainable Europe. Launched by the European Commission, the Pact is part of the European Green Deal and is helping the EU to meet its goal to become climate-neutral by 2050. This work presents examples of activities of the EU Climate pact ambassador in different directions (international and national/local level), with an unique goal, to increase awareness of importance of action, change of mindset, and exchange positive experiences. Climate Action is presented:

- through educational activities in EUGLOH project (European Global Health Universities Alliance) - by organizing Course Climate Action for Health and presenting to students at international level different Climate actions activities.
- engagement of citizens through Rotary Climate Action in RD 2483 and wither in Rotary international community - as citizens activities - Rotary Climate Action with the aim to increase awareness of climate change and health consequences.
- as mentorship activities with PhD students in the field (climate change and air pollution impact on respiratory diseases) - as a research activities.
- as an example of cooperation with media in Serbia - increasing of awareness among journalists.

There are a lot of possibilities to work in the long-term in the community, using glocal principles and trying to find a way to change the behaviour of citizens towards acceptance of climate neutrality as an important goal.

Key messages:

- Climate Action is citizens action.
- Climate action is a way to change the behaviour of citizens towards acceptance of climate neutrality as an important goal.

Abstract citation ID: ckae144.1377
Urban transformation interventions for the promotion of active home-school mobility: overview

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Background: Active home-school mobility can contribute to a series of benefits, both for the health of children and adolescents (higher levels of physical activity, better cardio-metabolic profile, better school performance), and for the health of the general population and of environment (reduction of air pollution and greenhouse gas emissions). An overview of systematic reviews (RS) was conducted in order to evaluate mainly the effectiveness of interventions promoting active home-school mobility on physical activity, overweight/obesity, well-being and reduction of road accidents in children and adolescents.

Methods: The bibliographic search was carried out on the following databases: Cochrane Database of Systematic Reviews, MEDLINE, Embase and CINAHL, without any limits. Endnote software was used for the systematic reviews (SRs) selection. Data relating to the main characteristics and results of the SRs were extracted. The assessment of the methodological quality of the SRs was carried out using the "Health Evidence^{TM} Quality Assessment Tool".

Results: On the basis of the relevance and adherence to the research PICO, n. 12 systematic literature reviews evaluating effects of interventions of interest in the study population.

The strategies took multiple levels into consideration, i.e. they aimed at organizing the home-school journey to encourage active mobility, as well as training and information aimed at the population under study for the promotion of physical activity.

Conclusions: Combined interventions appear more effective in promoting active home-school mobility with a better impact on increasing physical activity levels. Further high quality studies are necessary to investigate the impact of these interventions also on the reduction of incidence of overweight/obesity and in terms of school performance.

Key messages:

- Policy makers should promote programs to increase active home-school transport.
- Further high quality studies are necessary to investigate the impact of these interventions also on the reduction of incidence of overweight/obesity and in terms of school performance.

Abstract citation ID: ckae144.1378

Guidance on health promoting and climate-friendly hospitals and health services

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The negative impacts of climate change on health and the healthcare system are becoming increasingly evident. The healthcare sector, which accounts for nearly seven percent of Austria's CO2 emissions, contributes to the exacerbation of climate change on one hand, but is also affected by its consequences on the other. To meet these challenges, it is necessary for healthcare facilities to both adopt climate-protective measures and adapt to the changed conditions. A project launched in 2023, supported by the Austrian Health Promotion Agenda and in cooperation with the Austrian Network of Health Promoting Hospitals and Health Services, has shown that there is a need for support in implementing climate protection measures in healthcare facilities. In response, the WHO Collaborating Centre for Health Promotion in Hospitals and Healthcare, located at the Competence Centre for Health Promotion and Healthcare at the Austrian National Public Health Institute, will work on the development of standards based on international models to support healthcare facilities in the introduction of climate-friendly practices until 2026. The methodology of the project includes the analysis of existing quality criteria and instruments, as well as a modified Delphi process with two rounds of online questionnaires directed at an international panel of experts. After each round, exchange meetings with a smaller group from the panel take place to achieve consensus. Based on the research findings and the Delphi consultations, a draft of standards and an implementation manual will be created. These drafts will be piloted in various healthcare facilities in Austria and other countries to assess their practicability and effectiveness. Following the pilot tests, the standards and the manual will be revised to integrate the practical insights gained. At the time of the conference, the initial results of the Delphi process will be presented, providing insights for the further development of the standards.

Key messages:

- Integrating climate-friendly practices into all aspects of healthcare can reduce its environmental impact, improve health outcomes, and contribute to the broader sustainable development goals.
- Climate-friendly approaches yield significant health, economic, and social co-benefits.

Abstract citation ID: ckae144.1379

Climate change among health students in France: a multicenter, cross-sectional study

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Introduction: Climate change (CC) has been identified as the greatest global health threat of our time. To foster the resilience of our health system and promote sustainable health, it is essential to rely on aware and trained actors. We evaluated the level of awareness, perception, and commitment of health students in France about CC and sustainable development (SD) issues. We also assessed their expectations in terms of initial training on these subjects.

Methods: We conducted an observational, cross-sectional, multicentre study targeting students enrolled in Medicine, Pharmacy, Odontology, Maieutics, Nursing, Physiotherapy, and Medical Electroradiology in the southwest region of France. The questionnaire used was designed to identify the Knowledge, Behaviors, Practices, and expectations on SD and CC during their studies. It was distributed in a format to be completed online in April 2022.

Results: A total of 529/7000 (7.5%) health students participated in our survey. Our results show that students have little perception of the impact of the health system on CC. However, they are already committed to reducing energy (97%) and water consumption (94.5%) and sorting their waste (87.8%) in their daily lives. Among students, 73.6% envision themselves as future actors in sustainable healthcare. Although they expect a strong commitment from their training institution, 92% of them think that students are the most active on these issues. Regarding their training, 83% of them think that it should integrate CC and SD issues, while 58.7% say that they have never dealt with this topic at this stage of their studies.

Conclusions: In France, the initial training of future health professionals must be rapidly adapted and must enable them to acquire the knowledge and skills necessary to understand the health impacts of CC on the one hand and to reduce the impact of the health sector on the climate on the other to build climate resilient and environmentally sustainable health systems.

Key messages:

- French health students appear to be committed to the fight against climate change.
- Initial training of future health professionals needs to be adapted to give them the knowledge and skills to understand the challenges of climate change with health and the health system.

Abstract citation ID: ckae144.1380
The role of Public Health during an emergency: the 2023 flood in the Emilia-Romagna Region

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Issue: Major meteorological events like floods are a primary issue for public health. In May 2023, the Emilia-Romagna Region (Italy) was hit by a major rainfall: more than 4.5 billion m3 of rainwater, more than 30 rivers overflowed, 36.000 displaced people, 17 casualties. Public health is called upon to mitigate health consequences with an epidemiological approach in the pre-disaster phase to better address the population; through rapid need assessment during the response phase; and through health surveillance and tracking systems in the post-disaster phase.

Description of the problem: A continuous epidemiological approach throughout the emergency was applied. Rescue: coordination for rescue and sheltering of displaced people (especially from flooded healthcare structures); veterinarian intervention for livestock assistance; carcass removal. Assistance: hygienic controls in shelters; distribution of a handbook with instructions for flooded residents and volunteers to prevent potential injuries and infectious disease outbreaks; immunization campaigns, primarily against tetanus and HAV. Health surveillance: monitoring of ER accesses and hospitalizations, notification of communicable diseases, syndromic surveillance. Post-emergency management: VBDs monitoring and preventive treatment, waste management, bathing water surveillance.

Results: A rapid need assessment was critical for the coordinated effort with other intervention forces, like the Civil Protection. A prompt risk communication ensured simple and clear information, mitigating the risks of exposure to floodwater. More than 10.000 vaccine doses were administered. The syndromic surveillance proved valuable in monitoring post-flood health trends.

Lessons: Several measures were implemented thanks to healthcare workers and volunteers. Nonetheless, a better and faster reaction is possible if disaster management protocols are already available. This experience must increase future preparedness of PH services.

Key messages:

- Public health intervention is crucial in all phases of an emergency, to take care of the affected population and to prevent further health issues.
- The public health response needs to be well-timed, long-lasting, and supported by a clear and well-defined risk communication to population and health workforce alike.

Abstract citation ID: ckae144.1381
Extreme Heat and Specific-Cause Mortality during Summer 2018 in Mainland Portugal

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Climate change has led to increased frequency and duration of extreme heat periods, impacting human health and mortality. During the 2003 heatwave, it was estimated that there were between 25,000 and 70,000 excess deaths in Western Europe. Specific-cause mortality analysis was conducted in Portugal that year and has not been assessed since. The goal of this study is to estimate the impact of an extreme heat period in 2018 on specific-cause mortality in mainland Portugal. An ecological study was conducted comparing observed and expected deaths, from August 2 to 9, 2018, in Portugal. Two comparison periods were chosen: from July 19 to 26, 2018 (C1) and the average deaths from August 2 to 9 in 2017 and 2019 (C2). Excesses, ratios, and respective 95% confidence intervals were calculated in R. Analyses were stratified by sex, age group, and district. Consistent excess deaths were observed between comparators, showing a greater impact in circulatory diseases (C1: 283, 95% CI: 210; 356 and C2: 239, 95% CI: 164; 314) and respiratory diseases (C1: 98, 95% CI: 55; 141 and C2: 95, 95% CI: 52; 138). Regarding death ratios, with C1, the highest death ratios were observed for exposure to excessive natural heat (50.00, 95% CI: 37.11; 65.92) and ischemic stroke (4.00, 95% CI: 2.07; 6.99). With C2, the highest death ratios were observed for exposure to excessive natural heat (50.00, 95% CI 37.11; 65.92) and atherosclerosis (2.71, 95% CI 1.63; 4.24). The excesses and ratios of deaths were higher in more urbanized districts, females, and age groups above 75 years. The results suggest that the extreme heat in 2018 had an impact on mortality. Elevated death ratios and excesses were observed for various causes of death with considerable statistical magnitude and significance. These findings align with other national and international studies. Public health action is increasingly critical to mitigate the observed rise in mortality during periods of extreme heat.

Key messages:

- Specific-cause mortality analysis during extreme heat suggests a greater impact in circulatory and respiratory diseases, in residents of urbanized districts, females, and individuals of 75+ years.
- Understanding these specific causes can better inform public health actions and planning, thereby mitigating the adverse effects of extreme heat.

Abstract citation ID: ckae144.1382
Cross-sectoral interventions to promote health-supportive urban environments

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Background: As dealing with the complexity of urban living conditions becomes more and more evident and urgent, it is fundamental to promote cross-sectoral interventions that allow cities to become more inclusive and supportive of health. The Emilia-Romagna region, Italy, has promoted a participatory initiative to structurally integrate health into urban planning tools, identifying a framework of tailored urban indicators linked to locally perceived population health issues.

Methods: Through internal discussion and systematic literature research, a set of urban planners, epidemiologists, and public health experts from regional offices, local health services, universities, and environmental protection agencies identified the urban and health dimensions most suitable for embedding population health into city planning. The result was summarised in a preliminary working paper, which included a matrix of associations between urban features and health dimensions framed according to the DPSEEA framework. Its applicability was then tested in a participatory process (March-May 2024) involving urban planners and public health departments of 7 different sized municipalities.

Results: A group of epidemiologists identified local-level computable indicators for the health dimensions already included in the matrix or added at request. Each municipality focused on specific topics based on local priorities: 3 groups assessing their already-approved urban plans and looking for computable urban indicators; the others integrating their under-construction plans with local health indicators.

Conclusions: The need for professional contamination and cross-sectoral interventions is significant. Epidemiological support is pivotal in integrating different professional languages and reading health data. The outputs of this experience will contribute to a technical document outlining how to incorporate health promotion into urban planning tools and practice while actively considering the local context.

Key messages:

- Although the development of a common vocabulary can be difficult, multidisciplinary collaboration is essential in promoting a model for integrating health promotion into urban planning.
- Local municipalities' involvement in the experimentation can improve the model's applicability by taking into account territorial specificities.

DG. Poster display: Environment and health / Planetary Health

Abstract citation ID: ckae144.1383
Interaction of polychlorinated biphenyls exposure, lifestyle and genetic risk in dyslipidemia

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Background: Polychlorinated biphenyls (PCBs) are endocrine-disrupting chemicals that have been associated with various adverse health conditions. However, the interaction effects between PCBs, lifestyle, and/or genetic susceptibility on dyslipidemias are still unknown.

Methods: Six serum PCBs including PCB-28, 101, 118, 138, 153, and 180 were determined in 3,845 participants from the Wuhan-Zhuhai cohort. Dyslipidemias, including hyper-total cholesterol (HyperTC), hyper-triglyceride (HyperTG), hyper-low density lipoprotein cholesterol (HyperLDL-C), and hypo-high density lipoprotein cholesterol (HypoHDL-C) were classified based on serum lipids levels, which were examined by an automatic biochemical analyzer. Besides, we constructed lipid-specific polygenic risk scores (PRS) and healthy lifestyle scores, and used Logistic regression models to explore the relationships of serum PCBs, lifestyle, and PRS with dyslipidemias.

Results: We observed that all six PCB congeners were positively associated with the prevalence of dyslipidemias to varying degrees. In particular, dose-response manners were observed between ΣPCB levels and odds ratios (ORs) of HyperTC, HyperTG, and HyperLDL-C, respectively. Besides, we found that PRSs and unhealthy lifestyles were both positively associated with dyslipidemias. For the combined effect of ΣPCB, lifestyle, and PRS, participants with high ΣPCB, unfavorable lifestyle, and high genetic risk had the highest odds of HyperTC (2.285; 1.533, 3.417), HyperTG (7.944; 5.169, 12.329), and HyperLDL-C (3.523; 2.311, 5.394) when compared with those with low ΣPCB, healthy lifestyle, and low genetic risk.

Conclusions: Our study provided evidence that PCB exposure potentially increases the prevalence of dyslipidemias, which may be exacerbated by genetic susceptibility and unhealthy lifestyles.

Key messages:

- Our results highlighted the importance of reducing PCB exposure, adopting healthy lifestyles for the prevention of dyslipidemia.
- Our work might facilitate the emergence of reducing or regulating PCB pollution to control blood lipids and the resultant dyslipidemia epidemic.

Abstract citation ID: ckae144.1384
Determinants in disaster preparedness of nurses in the Azores

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Background: Disasters are situations of complexity and unpredictability, increasingly frequent and more destructive. They require rapid and effective action from different teams from different contexts, with preparation and qualifications for an adequate response to victims, recovering the environment, and restoring living conditions, and nurses play a significant role in these events. Understanding the level of preparedness of nurses for disasters is fundamental for defining the competency framework in the disaster management cycle.

Objectives: To analyze the preparation of nurses in the Azores for a catastrophe.

Methods: A cross-sectional study was performed with 160 nurses from the Azores. The questionnaire validated for the Portuguese population "Disaster Preparedness Evaluation Tool (DPET ®): Preparation of nurses in the face of a catastrophe" was applied. It was approved by the Ethics Committee.

Results: More than half of respondents (n = 137, 71%) indicated that they were not fully prepared to respond to disasters, while 29% (n = 46) acknowledged that they felt adequately prepared. Of the 160 respondents, only 20% (n = 30) participated in the development of emergency plans and only 14% (n = 22) participated in the creation of emergency plans that contribute to improvements at the local level. Training through simulation training was cited as important in disaster preparedness (n = 129, 78%).

Discussion: The present study identified little involvement of RAA nurses in preparing emergency plans and less than half feel poorly prepared in responding to a catastrophe. This finding is consistent with studies by Baker, Alamri, & Aboshaiqah (2019) and Emaliyawati et al. (2021).

Conclusions: This study was conducted in a region prone to natural disasters. It is vital to invest in the training of these professionals throughout the disaster cycle so that they can contribute to reducing the impact that the catastrophe will have on the individual/family and community.

Key messages:

- Strengthening capabilities through regular disaster training based on effective information.
- Low participation in the development of emergency plans that contribute to improvements at the local level.

Abstract citation ID: ckae144.1385
Eco-friendly treatment: a win-win for patients, health systems, and the planet. Rapid scoping review

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Background: As the fifth-largest CO2 emitter globally, the healthcare industry must act to mitigate its environmental impact. This includes de-implementing low-value care and adopting eco-friendly innovative treatment alternatives. Our study aims to explore existing research on the environmental effects of these actions and the outcome measures utilized.

Methods: We conducted a rapid scoping review following a pre-published protocol, searching Ovid MEDLINE® and Scopus (Elsevier) from January 2015 to June 19, 2023. Initially, dual abstract and full-text screening was performed, followed by a single review. Data extraction was cross-checked by a second reviewer. Findings were narratively described using summary statistics.

Results: We analyzed 182 articles, primarily life cycle assessments and modeling studies (92 out of 182), with only one study being a randomized controlled trial. The research covered various healthcare practices, including consultation methods/telemedicine (32%), surgical and medical device usage (26%), medication (25%), surgical procedures (19%), as well as diagnostic tests, screening, and imaging (13%). The main sustainability strategies mentioned were 'Rethink' (99%) and 'Reduce' (81%), with 'Reuse' (32%), 'Recycle' (19%), and 'Refuse' (10%) being less utilized. Environmental outcomes reported included global warming (88%), resource consumption (27%), and chemical hazards (23%). Most studies were conducted in Europe (48%), followed by the USA (37%), with 75% published after 2020.

Conclusions: The environmental impact of healthcare is a pivotal area for public health action and fortunately, it is also emerging as a significant research field. Utilizing methodological approaches less common in evidence-based healthcare research underscores the necessity for innovative interdisciplinary collaboration and capacity building. The most pressing research gap lies in the impact of de-implementation strategies ("refuse") targeting low-value care practices.

Key messages:

- Measuring the environmental impact of healthcare demands the development of novel cross-disciplinary research methods and collaborations.
- De-implementing low-value care represents a future win-win scenario for patients, the financial viability of healthcare systems, and global environmental sustainability.

Abstract citation ID: ckae144.1386
Why greenhouse agricultural workers do not use pesticide protection methods? A case study

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Background: Exposure to pesticides in individuals working in greenhouse agriculture is an important public health problem that threatens their health more than individuals working in other agricultural jobs for the same period of time, causing an increase in mortality and morbidity rates. Applying protection methods plays an important role in reducing/preventing exposure-related health risks. It is aimed to explore the reasons why greenhouse agricultural workers do not use pesticide protection methods.

Methods: This case study was adopted the descriptive qualitative approach between February-March 2024. Individual in-depth face-to-face interviews were conducted with semi-structured interviews, resulting in 20 participants. The inclusion criteria for participants include being a greenhouse agricultural worker (at least 1 year), being 18 years of age or older, using pesticides, not using any personal protective equipment, and not engaging in protective behavior. Braun and Clark's (2021) reflexive thematic analysis methodology was used to analyze the data.

Results: In this study generated three main themes and fourteen subthemes. The main themes identified were a) personal attitudes/characteristics b) negative features of the physical environment, c) negative features of personal protective equipment.

Conclusions: The reasons why greenhouse agricultural workers do not use pesticide protection methods are individual attitudes/characteristics such as laziness and not to care about, negative characteristics of the environment such as temperature, humidity and wetness, and negative characteristics of personal protective equipment such as being heavy and inflexibility. Health institutions and health professionals serving in regions where agricultural workers should develop interventional studies, intervention programs and strategies to protect and improve the health of these individuals.

Key messages:

- Greenhouse agriculture workers do not use any of the pesticide protection methods due to individual attitudes/characteristics, negative characteristics of environment and personal protective equipment.
- Health professionals can ensure that greenhouse agricultural workers use pesticide protection methods by increasing their awareness of health risks and planning interventional studies.

Abstract citation ID: ckae144.1387
Air Pollutants and Ovarian Reserve: A Systematic Review of the Evidence

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Background: Growing evidence points to an association between ambient air pollution and decreased human reproductive potential. The aim of this study was to systematically review the association between air pollutants and female ovarian reserve.

Methods: The literature was searched in six electronic databases through August 2023. Screening of the 75 articles retrieved for inclusion criteria resulted in the selection of 12 human observational studies that evaluated the effect of environmental pollutants on markers of female ovarian reserve. The study protocol was registered on PROSPERO (registration code CRD42023474218).

Results: The study design of selected studies was found to be cross-sectional (2 of 10), retrospective cohort (7 of 10), prospective cohort (2 of 10), and case-control (1 of 10). The study population was equally distributed between Asians (60%) and Americans (50%) with an Italian minority (10%). The main findings showed a higher body of evidence for the environmental pollutants PM2.5, PM10, and NO2, while a low body of evidence for PM1, O3, SO2, and a very low body of evidence for benzene, formaldehyde, and benzo(a)pyrene, yet consistently showing significant inverse association data. The overall methodological quality of the selected studies was rated moderated across the 14 domains of the NIH toolkit.

Conclusions: Increased exposure to air pollutants seems to be associated with reduced female ovarian reserve with evidence being strongest for pollutants such as PM2.5, PM10, and NO2. More evidence is needed to draw conclusions about causality.

Key messages:

- Increased exposure to air pollutants seems to be associated with reduced female ovarian reserve with evidence being strongest for pollutants such as PM2.5, PM10, and NO2.
- Global environmental policy programs are urgently needed to reduce the risks associated with reduced fertility such as reduced birth rates or the use of assisted reproductive technologies.

Abstract citation ID: ckae144.1388
Long-term effects of arsenic on glucose-insulin homeostasis: A gene-environment interaction study

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Background: Arsenic exposure and genetic factors are associated with an increased risk of type 2 diabetes, yet study of environment-gene interaction on glucose-insulin homeostasis remains scarce. We aimed to investigate the associations and interactions of urinary total arsenic (UTAs) and genetic susceptibility with glucose-insulin homeostasis through a longitudinal epidemiological study.

Methods: A total of 6136 observations (3063 participants) from the baseline, 3-year follow-up, and 6-year follow-up of the Wuhan-Zhuhai cohort were included in this study. In each study period, we repeatedly measured UTAs, fasting plasma glucose (FPG), fasting plasma insulin (FPI), and homeostasis model-assessed insulin resistance (HOMA-IR) and β-cell function (HOMA-β). Polygenic risk scores (PRSs) specific for all traits were constructed by corresponding genome-wide association summary statistics. Linear mixed models were used to assess associations and interactions of UTAs and PRSs with four indicators of glucose-insulin homeostasis.

Results: After adjustment for all covariates, the βs (95% CIs) for the annual growth rates of FPG, FPI, and HOMA-IR were 0.020 (0.008, 0.032), 0.007 (0.002, 0.013), and 0.011 (0.004, 0.017), respectively, associated with each ln-unit increase in UTAs. Compared to subjects with the first-quartile PRS and low UTAs, participants with the fourth-quartile PRS and high UTAs had a 0.029 (0.012, 0.047) or 0.032 (0.012, 0.051) ln-unit increase in the annual growth rate of FPI or HOMA-IR, respectively. UTAs and PRS had significant interactions on the longitudinal progressive increases of FPI and HOMA-IR (P interaction < 0.05).

Conclusions: Arsenic exposure and genetic variants are significantly synergistic risk factors for dysregulation and progressive deterioration of glucose-insulin homeostasis. Our findings emphasize the importance of reducing arsenic exposure to maintain normal glucose-insulin metabolism, especially for those at higher genetic risk.

Key messages:

- Arsenic exposure was associated with annual increased rates of FPG, FPI, and HOMA-IR.
- Arsenic exposure and trait-specific PRSs are synergistic risk factors for glucose-insulin homeostasis impairment.

Abstract citation ID: ckae144.1389
The role of class stigma in socioeconomic inequalities in type 2 diabetes: The Maastricht Study

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Background: Low socioeconomic position (SEP) is a risk factor for type 2 diabetes mellitus (T2DM). An underlying mechanism behind socioeconomic health inequalities can be stigma, particularly classism. Studying the influence of class stigma in the context of (pre) diabetes and socioeconomic inequalities may shed light on the societal factors influencing diabetes.

Methods: Data from 1947 participants aged 49-88 who participated in the second phase of The Maastricht Study starting between November 2020 and April 2023 were used. SEP (education, income, occupation) and 6-item classism scale were measured through self-reported questionnaires. (Pre)diabetes was measured through an oral glucose tolerance test. We conducted multinomial logistic regression analyses to investigate the associations between SEP, classism, and diabetes status.

Results: 20.9% ($N = 406$) of the study sample had T2DM (Mage=69.8(±6.8) years; 31.3% women). People with low SEP had more often T2DM (e.g., income OR = 2.13, 95%CI:1.54-2.82) and reported perceived classism (e.g., education OR = 2.07, 95%CI:1.33-3.21) than people with high SEP. Classism was not statistically significantly associated with T2DM (OR = 0.78, 95%CI:0.48-1.29).

Conclusions: Social health inequalities are apparent in T2DM; however, our results suggest that class stigma might not be a major factor in underlying processes. Further research can investigate the role of chronic stress and intersection of multiple stigmas.

Key messages:

- The underlying factors behind socioeconomic health disparities are complex. Social and psychological environment in low SEP should be investigated carefully.
- Although low SEP is strongly associated with T2DM and perceived classism, class stigma might not be a major target in explaining socioeconomic pathways in diabetes.

Abstract citation ID: ckae144.1390
Benefits of hypothetical air pollution reduction interventions on NCDs in Belgium

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Background: The adverse health impact of air pollution on non-communicable diseases (NCDs) is well documented, yet methodological tools for assessing the potential health benefits of interventions are lacking. This study uses a parametric g-computation approach to evaluate the impact of hypothetical interventions targeting long-term air pollution exposure on reducing NCDs prevalence in Belgium, using data from three national Health Interview Surveys (BHIS 2008-2013-2018).

Methods: BHIS data ($n = 27{,}536$) were linked to environmental data at participants' residential addresses. A g-computation approach was used to calculate the potential impact fractions of air quality interventions on several NCDs. Regression models were adjusted for socio-economic, environmental and lifestyle factors. The scenarios involved reducing individual long-term air pollution exposure to WHO air quality guideline levels, followed by investigating dose-response functions through various percentage reductions in air pollution exposure.

Results: Significant associations were found between air pollution and asthma, stroke, and multimorbidity. Adhering to WHO air quality guidelines would substantially reduce stroke risk in Belgium by 0.87% (95% CI:0.38; 1.35) for PM2.5 and 0.32% (95% CI:-0.05; 0.70) for NO2, preventing 63% and 22% of cases, respectively. For asthma, risk reduction was 1.43% (95% CI:-0.53; 3.4) for PM2.5 and 0.83% (95% CI: 0.01; 1.63) for NO2, preventing 27% and 16% of cases, respectively. For multimorbidity, risk reduction was 3.20 % (95% CI: -1.75; 8.16) for PM2.5 and 0.43% (95% CI:-2.03; 2.90) for NO2, preventing 7% and 0.4% of cases, respectively. Results revealed a clear dose-response association between air pollution reduction and the prevalence of stroke, asthma, and multimorbidity in Belgium.

Conclusions: This study demonstrates that air pollution reduction interventions could effectively decrease the prevalence of asthma, stroke, and multimorbidity in Belgium.

Key messages:

- Air pollution reduction interventions could effectively decrease the prevalence of asthma, stroke, and multimorbidity in Belgium.
- The g-computation approach to assess PIF of interventions represents a straightforward approach for drawing causal inferences from observational data.

Abstract citation ID: ckae144.1391
Does perceived neighbourhood social cohesion moderate the effects of demographic changes on health?

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Small-area characteristics changes over time may be associated with health. Various theories have been proposed to explain small-area effects on health, including those concerning social capital. The effect of small-area demographic changes on health are very little researched and hardly anything is known about their relationship with social cohesion. We use longitudinal data from the German Socio-Economic Panel linked to demographic measures at county level. We explore the association between 5-year changes in the proportion of over 65 and of 18-24 years-old and physical and mental health and the moderating effect of perceived neighbourhood social cohesion (SC) using random intercept models. Control variables include education, income, and relevant baseline measures. Included are all participants with a 6-year continuous exposure to their county of residence. The main outcomes are the physical and mental health components (PCS, MCS) of the SF-12. We included 21,239 persons up to 6 times in 399 counties. 5-year changes in the over 65, of 18-24 and measure of SC are associated to MCS and PCS. Significant interactions between the changes in over 65 and social cohesion are seen for MCS only in rural areas and some interactions are significant for PCS. For MCS there are no interactions between social cohesion and the changes in 18-24. Important interaction effects for PCS: for those exposed to a small decrease in 18-24, an increase in one unit of SC is associated with an increase of 1.71 (95% CI[1.38, 2.03]) PCS units. For those exposed to a large decrease this effect is lower by 0.88 PCS units. Exposition to some demographic changes have the effect to reduce the positive effects of perceived social cohesion on health. Thus, demographic changes appear to be health stressors. The evidence shown by this work need to be further developed by considering smaller scales but the evidence opens up a new range of possible intervention targets to reduce health inequalities.

Key messages:

- County level demographic changes are associated with physical and mental health and certain exposition to changes reduce the positive effects of perceived neighbourhood social cohesion.
- Social cohesion can be an intervention target to reduce small-area health inequalities, population changes can annulate positive effects. This must be accounted for in public health interventions.

Abstract citation ID: ckae144.1392
Long-term exposure to PM2.5 and mortality among Japanese community-dwelling adults

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Background: Long-term exposure to PM2.5 (particulate matter with a diameter of 2.5 μm or smaller) is a risk factor for mortality and cardiovascular disease including stroke. However, there was limited evidence for the association between PM2.5 exposure and stroke in Asia where the major cardiovascular disease is stroke. Additionally, the causal association between PM2.5 and respiratory disease is still unresolved. The aim of this study was to investigate the association between long-term exposure to PM2.5 and all-cause, cardiovascular, and respiratory disease mortality in a Japanese community-based prospective cohort.

Methods: This study included 46,974 participants (19,707 men; 27,267 women) from the second cohort of the Ibaraki Prefectural Health Study. The participants were followed up from baseline survey (in 2009) to 31 December 2019. We confirmed underlying causes by death certificates. Using the PM2.5 concentrations estimated by the inverse distance weighting methods based on ambient air monitoring data, administrative area level concentrations were

assigned to each participant. The hazard ratios (HRs) and 95% confidence intervals (CIs) of mortality using a Cox proportional hazard model were presented.

Results: We identified 2,789 all-cause deaths during the 470,178 person-years of follow-up. PM2.5 exposure had no significant association with all-cause and cause-specific mortality. The multivariable-adjusted HRs per 1 μg/m3 increase in the PM2.5 concentration were 0.94 (95% CI = 0.80-1.12) for coronary heart disease, 0.92 (95% CI = 0.81-1.04) for stroke and 1.09 (95% CI = 0.97-1.23) for non-malignant respiratory disease.

Conclusions: We observed little evidence of increased risk of all-cause and cause-specific mortality by long-term exposure to PM2.5 whose concentrations ranged from 8.3 to 13.1 μg/m3. A somewhat increased trend for non-malignant respiratory disease mortality may not be negligible.

Key messages:

- We found little evidence of increased risk of all-cause and cause-specific mortality by long-term exposure to PM2.5.
- Somewhat increased tendency for non-malignant respiratory disease mortality associated with PM2.5 exposure was observed.

Abstract citation ID: ckae144.1393
Association of Built Environment with Well-Being: An Experience Sampling Method

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Background: Well-being (WB) is important because it extends beyond physical health, as defined by the World Health Organization (WHO). From a temporal perspective, WB encompasses two aspects: long-term WB (LWB), such as overall life satisfaction, and momentary WB (MWB), such as immediate mood. While research has demonstrated a positive association between built environments such as urban land, grassland areas, and LWB, there is limited research exploring the association between the characteristics of built environments and MWB.

Methods: We applied the Experience Sampling Method (ESM) to collect data on the location, detailed environmental characteristics, and the MWB and LWB of adult participants living in Kashiwa City, Japan. Structural equation modeling was used to calculate the correlation coefficients between different built environments and both MWB and LWB.

Results: Nine hundred reports from 273 valid participants were obtained. In terms of types of locations, it was shown that cafes/restaurants/bars (coefficients = 0.85), culture/sport/education facilities (0.45), and public spaces (0.62) have a positive association with MWB. Additionally, environments perceived as natural (0.43), relaxing, and clean (2.31) have a positive association with MWB. Conversely, being on the move (-0.88) and vibrant environments (-0.58) have a negative association with MWB. Moreover, higher LWB levels were associated with higher MWB (0.64).

Conclusions: This study used the ESM to measure MWB and confirmed an association with various built environments. These findings provide guidance for city planning and policies that focus on enhancing urban well-being. This study highlights the benefits of places such as parks and cafes that promote happiness and the need for well-designed transportation and roads. These elements are important for developing urban areas that not only meet residents' physical requirements but also support their emotional and psychological well-being.

Key messages:

- Our findings show that public spaces, cafes, and cultural facilities are significantly associated with MWB, highlighting their role in urban planning as places that promote happiness.
- 'Being on the move' is associated with lower MWB, indicating the need for well-designed transportation and road environments.

Abstract citation ID: ckae144.1394
How characteristics of place affect multimorbidity: a systematic scoping review

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Background: Multimorbidity has become a global public health challenge. Increasing work has identified different individual- and household-level determinants of multimorbidity; however, our understanding of how characteristics of place affect multimorbidity remains limited. This scoping review aims to identify the place-based risk factors of multimorbidity and to synthesis evidence (longitudinal in particular) on how place-based risk factors affect multimorbidity.

Methods: Following PRISMA-ScR guidelines, a predefined search strategy (https://osf.io/bf84m) was run across 7 major databases in 2023, with a double screening and data extraction process. English-language peer-reviewed studies exploring the relationship between place-based characteristics (from neighbourhood to region) and multimorbidity among the general population aged over 18 years old were included from 2010 to 2023.

Results: Out of 7761 records, 129 underwent full-text review, resulting in 76 included studies (15 longitudinal). We identified 12 types of place-based risk factors of multimorbidity, with area-level deprivation/SES, pollution, and urban/rurality most frequently examined. Fairly consistent findings suggested that people in more deprived, polluted, or urbanised areas were more likely to be multimorbid, which may further vary by multimorbidity definitions/measurements. Other place-based risk factors, such as social cohesion and greenspace availability, were linked to different single health conditions, but their associations with multimorbidity were underexplored. Finally, we proposed a potential theoretical framework that links place and multimorbidity through multiple pathways based on the synthesised evidence.

Conclusions: There remains only a partial understanding of how 'place' affects multimorbidity. Future studies should employ more precise measures for both place-based risk factors and multimorbidity and use longitudinal designs and analytical approaches for more causal insights.

Key messages:

- This is the first scoping review that proposed a theoretical framework that demonstrates the links between place and multimorbidity.
- This study will greatly benefit local policymaking and public health intervention initiation.

Abstract citation ID: ckae144.1395
Built environmental characteristics, physical activity in neighbourhoods of Accra, Ghana

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There is increasing evidence that characteristics of the built environment can influence residents' lifestyles, physical activity thereby influencing the development of obesity and non-communicable diseases even in low- and middle-income countries. The aim of this study is to describe the characteristics of the built and the social environment of neighbourhoods of Accra, Ghana, and to explore association between neighbourhood characteristics and the physical activity of the residents. A cross-sectional study was conducted in Accra, 12 neighbourhoods were randomly selected based on high and low values of residential density and socioeconomic status. Sociodemographic, household and neighbourhood information were collected with an adapted questionnaire of NEWS (Neighbourhood Environment Walkability Scale) for Africa. Physical activity was assessed by WHO Global Physical Activity Questionnaire and social cohesion by the Perceived Neighbourhood Social Cohesion Questionnaire. Differences between variables by neighbourhood types were analysed using Chi square test and Kruskal Wallis test. Generalized linear model was performed to determine the association between neighbourhood characteristics and residents' physical activity. The built environmental characteristics of different neighbourhood types and the physical activity of the residents showed significant differences. The associations indicated that individuals living in high residential density neighbourhoods had increased levels of engaging in physical activities. Land use mix, street connectivity, safety, aesthetics and social cohesion of neighbourhoods showed correlation with physical activity of residents. The built environment and social characteristics of neighbourhoods can influence the lifestyle and physical activity of residents in Accra, Ghana.

Key messages:

- High residential density neighbourhoods correlated with higher level of physical activity.
- Land use, street connectivity, safety and aesthetic of neighbourhoods and social cohesion showed correlation with physical activity.

Abstract citation ID: ckae144.1396
Antibiotic resistant Pseudomonas aeruginosa in dental unit waterline: a case study in Milan (Italy)

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P.aeruginosa (Pa) is one of the most serious cause of healthcare-associated bacteremia, well-known for its antibiotic resistance (AR). Pa has often been found in dental unit water representing a great risk in public health. Aims are to evaluate the presence of Pa in dental unit (DU) water and its phenotypic and genotypic properties. Pa isolates derive from a monitoring of DU water in an Italian hospital (Milan). Samples were collected on Monday and on Friday, before the beginning and after the end of activities. Resistant PA strains were characterized by phenotypic method using E-test for 6 different classes of antibiotics, and by genotypic method with Whole-genome sequencing (WGS). Resistance genes were annotated with ResFinder v. 4.5 and Sequence Type (ST) was determined using the PA MLST database. 70/272 strains were identified as Pa and 21 of them were AR to one or more antibiotics. They were detected in 10/44 (22.7%) DUs and 2/4 (50%) control sinks (1-2000UFC/100mL). WGS was obtained for 18 strains. 17 belonged to serogroup O11 and ST667 was prevalent (8/18) followed by ST395 (4/18). At the ground floor ST395 was the most prevalent, followed by ST667 and 260, while, at the first floor, ST309 and 667 were in the two controls and ST667, 3245 and 260 in the other DUs. Resistant genes blaPAO, aph(3')-IIb, catB7 conferring resistance to β-lactams, aminoglycosides and amphenicol, respectively, were observed in all isolates. Only ST3245 strain did not show resistance to Fosfomycin. Genotypic and phenotypic analyses present some discrepancies with the presence of AR genes and no antibiotic resistance detection (4/18) or resistance to other different classes of antibiotics (6/18). The MLST analyses showed a high diversity, with the presence of strains sharing different antibiotic resistance mechanisms in DU water. Detection and analyses by WGS can help to track dissemination of genetic resistance determinants and potential emergence of high-risk clones.

Key messages:

- Phenotypic and genotypic analyses in DU water are needed to evaluate risk for human health, in addition to routine microbial monitoring.
- WGS can help to track dissemination of genetic resistance determinants and potential emergence of high-risk clones.

Abstract citation ID: ckae144.1397
Exploring knowledge, attitudes and practices towards sustainable food aid programmes across Europe

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Background: Food insecurity has increased following the COVID-19 pandemic and the Ukraine conflict. In some EU high-income countries, more than 70% of food aid users experience food insecurity, highlighting the need for food aid programmes to provide good quality and sustainable services and maximise the social inclusion of food aid users. The aim of this study was to identify areas that can promote sustainability in food aid programmes.

Methods: Knowledge, attitudes and practices towards sustainable food aid were assessed via a quantitative questionnaire. Socio-demographic data were also collected. The survey was translated and disseminated online across 5 EU countries (Austria, Cyprus, Greece, Poland, Portugal), targeting staff and volunteers involved in food aid programmes (20 per country, total $N = 100$). Descriptive statistics were used for data analysis.

Results: Most participants were female (68%), 18-49 years old (87%) and occupied in a NGO (89%) as employee (55%). The mean total knowledge score was 11.8 out of 19 (SD 3.2) with low knowledge (% of correct answers) on household food waste (18%) and environmental impact of cooking appliances (29%). In all countries (except Austria) more than 70% of participants agreed that they can apply sustainability through their work; however, more than 50% agreed that sustainability is not always feasible in food aid programmes. Food loss/waste, access to local food and the economic crisis were the main parameters reported to impact sustainability in food aid

($\geq$70% of N). The most frequently applied practices were storing food according to expiration date, monitoring quantities in food distribution, considering beneficiaries' needs and reading food labels. The least frequently applied practices were composting food leftovers and using energy-efficient methods to distribute food.
Conclusions: Sustainability is considered important; however, more effort is needed to promote and embed sustainability parameters in food aid programmes.

Key messages:

- Sustainability is considered important in food aid programmes; however, more effort is needed to promote and embed sustainability parameters in practice.
- Identifying sustainability areas in food aid programmes can lead to successful educational and training initiatives.

Abstract citation ID: ckae144.1398
Greenspace and mental health research – the question of scale

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Background: Greenspaces have been proven to promote mental health and wellbeing. Research is conducted in diverse fields with various methods. However, studies and theoretical concepts frequently fail to address or define the scale of the environment in question. Furthermore, the different types of greenspace at the same scale are often inconsistently or inaccurately defined. Such limitations may impede the comparability of results and interdisciplinary understanding. The aims were therefore: 1. To provide a quantitative overview of the combinations of greenspace and mental health measures used at the ecological scales; 2. To embed the results in the existing theoretical background.
Methods: A systematic search and a scoping review were conducted, applying an PEO framework. The data was charted with an extraction table and analysed with regard to the ecological scales which are: landscapes, ecosystems/land-use types, and species/natural elements.
Preliminary Results: Generally, distinct greenspace measures are used at different scales, while the mental health measures do not show such a clear pattern. The "landscape" scale is most often assessed via GIS approaches. The scales "ecosystems" and "species" are mostly investigated via interventions. Overall, the "ecosystems" scale is the most frequent in both research and theory. Qualitative mental health measures often focus on ecosystems. However, the qualitative theoretical concepts are based on landscapes, e.g. Therapeutic Landscapes. Species and natural elements are rarely directly addressed by both studies and theories.
Conclusions: We propose increased attention to the types and scales of green and nature at both the theoretical and the practical research level. Established ecological scales can provide a common basis for interdisciplinary research and improve the comparability of studies. This can elucidate the potential differences in the impact of the diverse forms and dimensions of nature on human health.

Key messages:

- The methods employed to assess the relation between greenspace and mental health vary according to the ecological scale. Ecosystems are the main focus in research and theory, species the least.
- The type and scale of nature should be considered in environmental health research and theory. Established ecological scales can provide a basis for interdisciplinary comparability and understanding.

Abstract citation ID: ckae144.1399
How social and commercial determinants influence exclusive breastfeeding in the Philippines

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Background: The World Health Organization recommends exclusive breastfeeding (EBF) for the first six months after delivery. However, the EBF rate in the Philippines is only 29%. Existing literature suggests that the influence of infant formula marketing (IFM), communication channels, and traditional health beliefs are possible contributors to low EBF rates, but rare studies have been conducted in low-resource settings.
Methods: : To bridge the gap, 15 barangays in Palawan were selected; 97 interviews were conducted with lactating mothers (LM), health workers (HW), traditional healers, infant formula sellers, and community leaders (CL) to represent different perspectives. The results were coded and analyzed inductively.
Results: LM received EBF information through multiple resources. Poverty, lacking breast milk (BM), EBF education, and health benefits (HB) to infants are top contributors to EBF while maternal employment and no BM are top barriers to EBF. Elders, traditional health beliefs (THB), and the influence of COVID-19 can influence EBF in both directions. LM emphasized more on poverty and elders to EBF while HW and CL emphasized the role of EBF education and HB. Urban LM tend to have more regular EBF education, use pumps when going out, and are more influenced by IFM. LM in remote areas tend to have more THB, have more BM substitutes, and share BM. Social classes, locations, Indigeneity, migration, and poverty are intersectioned to influence EBF.
Conclusions: Multiple social and commercial determinants influenced EBF. LM is facing more challenges to EBF under globalization and capitalism. Remote LM are less benefited from new technologies and policies to promote EBF. Different stakeholders have echo chambers to perceive the determinants of EBF. To improve health equity and EBF, the situations of marginalized people in remote areas should be more considered in policy making. Community building should also be considered differently to assist in EBF.

Key messages:

- The project focuses on social and commercial determinants of exclusive breastfeeding with people in extreme poverty.
- The project includes plenty of Indigenous breastfeeding behavior that are underreported.

Abstract citation ID: ckae144.1400
Thermal indices for evaluating the impact of thermal conditions on human health: a systematic review

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Background: Thermal indices assess individuals' perception of their ambient thermal surroundings (thermal comfort and heat/cold stress) considering several meteorological factors, such as temperature, humidity, wind, and radiation. As climate change progresses, there is an increased demand for accurately monitoring the association between thermal environment and human health. This study summarizes the available evidence on the association between thermal indices and health outcomes.

Methods: We conducted a systematic search in PubMed, Scopus, and Web of Science until December 31st, 2023, to identify all relevant studies examining the association between thermal indices and health outcomes in outdoor environments.

Results: A total of 5,034 electronic records were screened. Of these, 310 were considered eligible, examining 1,143 associations. Seventeen indices were identified, with 32 (10.3%) articles using more than one index. The most commonly employed index was Apparent Temperature (articles: $n = 141$, 38.2%; associations: $n = 634$, 55.5%). The specific-cause health outcomes examined spanned 18 categories of the International Classification of Diseases. Most associations ($n = 304$, 26.6%) pertained to mortality/morbidity related to diseases of the circulatory system, followed by all-cause morbidity/mortality ($n = 288$, 25.2%). The 48.6% ($n = 556$) of the associations suggested an increased risk of adverse health outcomes when indices increased while 32.5% ($n = 372$) of the associations were non-significant. The 14.2% ($n = 162$) of the associations suggested an increased risk of adverse outcomes when indices decreased while 16% ($n = 183$) of the associations were non-significant.

Conclusions: The relevant literature revealed associations between thermal indices and health outcomes. Therefore, thermal indices, considering several meteorological variables, could be a useful tool for public health planning. However, there is diversity in their methodologies and reporting.

Key messages:
- Summarizing the published evidence regarding thermal indices is expected to attract the interest of public health professionals and policy makers, and enhance their use.
- Implementing integrated methods to monitor the association between thermal conditions and health, including using thermal indices, could be valuable for developing and evaluating policies.

Abstract citation ID: ckae144.1401
Estimation of Environmental Burden of Disease related to Arsenic exposure in European Populations

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Background: Arsenic (As) exposure poses significant health risks to exposed populations, with exposure occurring predominantly via diet for the general population as recently referred by the European Food Safety Authority. This study assesses the environmental burden of disease (EBD) for three cancer types related to arsenic, across Europe.

Methods: A literature review was conducted to 1) identify the dose-response function (DRF) to assess the cancer risk in European populations, and 2) define EBD approaches applicable to the available data. Country-specific data (Belgium, Denmark, Portugal) for EBD calculation (exposure, socioeconomic status, health outcomes) were gathered. Disability-Adjusted Life Years (DALY) estimations were performed by calculating attributable cases (AC).

Results: Two main references are used for DRF: the United States Food and Drug Administration DRF for assessing bladder and lung cancer risks, and the United States Environmental Protection Agency DRF for skin cancer. Preliminary results for Belgium indicate that inorganic arsenic dietary exposure ranges from 0.084 [0.080 - 0.088] to 0.102 [0.097 - 0.107] µg/kg body weight per day, varying with education level. Stratified estimates suggest that individuals with higher educational attainment (ISCED levels 5 & 6) have a marginally higher average daily intake of arsenic compared to those with lower educational attainment (ISCED levels 0, 1 & 2). DALY attributable to inorganic arsenic exposure follow the same trend as exposure levels, i.e. individuals with a higher education level bear a higher burden of disease than individuals of the low education stratum. This concerns the three studied cancers.

Conclusions: This study quantifies DALY related to inorganic arsenic from dietary exposure for different European countries. Our findings will contribute to better target public health policies and interventions for arsenic risk mitigation.

Key messages:
- Exposure to inorganic arsenic is confirmed in European countries.
- EBD studies guide action priorities to tackle chemical risk factors.

Abstract citation ID: ckae144.1402
Flatbreads in Kazakh, Kyrgyz, and Uighur Groups and its Role in Sustainable Food System

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Background: Flatbreads are various types of comparably thin bread and are widespread in a large region. People embed flatbreads with special cultural meanings and adapted local ingredients for baking flatbreads. More attention has been focused on flatbreads in recent years. However, how the cross-border Kazakh, Kyrgyz, and Uighur groups use flatbreads is understudied.

Methods: To understand how the cross-border Kazakh, Kyrgyz, and Uighur groups use flatbreads, the current paper reviews existing English, Mandarin, and some Russian literature to summarize how the Kazakh, Kyrgyz, and Uighur groups use flatbreads.

Results: The results show that these three ethnic groups prepare and use flatbreads in multiple aspects. The Kazakh, Kyrgyz, and Uighur people use 23, 9, and 17 types of flatbreads respectively. The flatbreads used by the Kazakh and Kyrgyz people have more overlapping than those of the Uighur people while the relevant studies of Kyrgyz people are more understudied. This resemblance may be because of the closer nomadic lifestyle and the similar influences of Russia and the USSR. The ingredients of flatbreads are aligned with the local ecosystems and have been evolving consistently in the past centuries because of the changes in technology, politics, lifestyles, health perceptions, acculturation, and globalization.

Conclusions: Because of the eco-friendly features of flatbreads and the widespread use of these foods, flatbreads have a high potential to support a regional strategy for sustainable food system transformation and planetary health along the Silk Road countries. To achieve this goal, more studies should be conducted to contribute missing information about ingredients, cooking methods, features, and regional differences in using flatbreads; more nutritious and bio-diverse recipes of flatbreads and the most eco-friendly cooking energy resources for baking flatbread should be identified; new meanings should be given to flatbreads to promote the use.

Key messages:

- The first study to summarize how Kazakh, Uighur, and Kyrgyz peoples use flatbread.
- Justify a potential to use flatbread for sustainable food system transformation.

Abstract citation ID: ckae144.1403
The Impact of Poor Air Quality on Hospitalisation of Multi-morbid Patients: A Systematic Review

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Background: Exposure to poor air quality worsen existing health conditions, particularly amongst vulnerable patients, leading to increased healthcare utilization. We conducted a systematic review to explore the impact of exposure to poor quality on healthcare requirements in multi-morbid patients.

Methods: We searched six major databases (Medline via Ovid, Embase via Ovid, Web of Science, CINAHL, Global Health, and Scopus) using search terms grouped into sets relating to 'air pollution,' 'multimorbidity,' "association" and 'hospitalisation.' We were interested in the impact of common air pollutants (PM2.5, PM10, SO2, NO2, O3, and CO) and articles were screened independently by two researchers. The review was registered with The International Prospective Register of Systematic Reviews (CRD42022369757) and followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Results: A total of nineteen studies were included. All six air pollutants increased hospitalisation amongst multi-morbid patients, especially those with diabetes and cardiovascular comorbidity. Females and the elderly (>65 years old) were the most vulnerable to the effects of air pollution, with an increase in hospitalisations of 9.23% and 6.35% when exposed to PM2.5 and PM10, respectively. Patients >65 years had a higher likelihood of hospitalisation for ischemic and haemorrhagic stroke when exposed to PM2.5 or PM10 at warm season. Patients (≥70 years) who had cardiovascular and pulmonary comorbidity were 3.9% more likely to be hospitalised for a cardiopulmonary event with a rise in NO2 levels. We found an intersectional effect (referred to as "the CADC effect" - Climatic changes, Air pollutant, Demographics, Chronic conditions) that influenced the likelihood of hospitalisation.

Conclusions: Future research is required to further understand this CADC effect in other high-risk population.

Key messages:

- Females, elderly, those with cardiovascular, and pulmonary comorbidity are at the highest risk of hospitalisation with poor air quality.
- The CADC effect explains the intersectional effect between hospitalisation in multimorbid patients, patients demographics and chronic conditions, and air pollution and temperature effects.

Abstract citation ID: ckae144.1404
Environment, climate, socio-economics & restrictions impact on COVID-19 in Northen Italy

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Up to now, studies on environmental, climatic, socio-economic factors, and non-pharmacological interventions (NPI) show diverse associations, often contrasting, with COVID-19 spread or severity. Most studies used large-scale, aggregated data, with limited adjustment for individual factors, and most of them focused on viral spread rather than severe outcomes. Moreover, evidence simultaneously evaluating variables belonging to different exposure domains is scarce, and none analysing their collective impact on an individual level. Our population-based retrospective cohort study aimed to assess the comprehensive role played by exposure variables belonging to four different domains, environmental, climatic, socio-economic, and non-pharmacological interventions (NPI), on individual COVID-19-related risk of hospitalization and death, analysing data from all patients (n.68472) tested positive to a SARS-CoV-2 swab in Modena Province (Northern Italy) between February 2020 and August 2021. Using adjusted Cox proportional hazard models, we estimated the risk of severe COVID-19 outcomes, investigating dose-response relationships through restricted cubic spline modelling for hazard ratios. Several significant associations emerged: long-term exposure to air pollutants (NO2, PM10, PM2.5) was linked to hospitalization risk in a complex way and showed an increased risk for death; while humidity was inversely associated; temperature showed a U-shaped risk; wind speed showed a linear association with both outcomes. Precipitation increased hospitalization risk but decreased mortality. Socio-economic and NPI indices showed clear linear associations, respectively negative and positive, with both outcomes. Our findings offer insights for evidence-based policy decisions, improving precision healthcare practices, and safeguarding public health in future pandemics. Refinement of pandemic response plans by healthcare authorities could benefit significantly.

Key messages:

- Evaluating simultaneously four exposure domains on COVID-19 outcomes informs public health policy for future pandemic management.
- The comprehension of risk factors associated with severe outcomes, such as hospitalization and mortality, is pivotal for planning responses to similar health emergencies in the future.

Abstract citation ID: ckae144.1405
An intervention on climate change anxiety and pro-environmental behaviours in Italian young people

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Background: The climate crisis greatly affects mental health, often leading to climate change anxiety. In Italy, there is a lack of research and school programs to help manage climate anxiety and other climate-related psychological consequences. The aim of the CAMBIO CLIMA project is to evaluate the levels of eco-anxiety and pro-environmental behaviours (PEBS) in a sample of Italian middle and high school students, before and after a tailored intervention on the climate crisis.

Methods: The intervention involves one hundred middle and high school classes from three Italian regions. The students will complete a set of surveys, including psychometric scales and questions on socio-demographic factors and climate change awareness. The students will then participate in a two-hour online workshop. A video will be shown at the beginning to raise awareness about climate change. The instructor will ask the students which solutions could be found to solve specific problems caused by climate change. The instructor will then propose and explain a list of PEBS that students can implement to fight against climate change. Finally, students will be invited to put into action these behaviours. A week after the intervention, students will be asked to take part in a post-intervention survey, completing the same set of questionnaires they completed at enrolment.

Results: Currently, the research team is in the preparatory stage, establishing contacts with schools and organizing materials for the online workshop. The intervention is scheduled for the upcoming school year.

Conclusions: The intervention, focused on enhancing the sense of self-efficacy, is expected to increase the resilience of adolescents, making them less vulnerable to the impact, both direct and indirect, of climate change on mental health. The project is funded by PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE - Bando 2022 (Prot. 2022N22J5F).

Key messages:
- Climate change has a disproportionate impact on young people.
- It is essential to plan adequate school programs that stimulate the sense of awareness and encourage PEBS simultaneously.

Abstract citation ID: ckae144.1406
Oxidative stress and cytotoxicity of co-formulants of glyphosate-based herbicides in HMWB cells

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Background: Glyphosate-based herbicides (GBHs) are widely used worldwide because of their effectiveness and low cost. However, there is a growing concern regarding the potential health risks associated with glyphosate exposure. Glyphosate is always marketed in formulations containing ingredients other than the active substance. These co-formulants may have toxic effects on humans and animals. Although several studies have assessed the health risks related to glyphosate, the toxicological effects of the co-formulants must be analysed in more detail to ensure the health and safety of pesticide users and the general population. This study aimed to characterize and compare the cytotoxic effects of co-formulants with those of the active substance and GBH formulations.

Methods: Human mononuclear white blood (HMWB) cells were exposed to varying concentrations (0.1 μM, 1μM, 10 μM, 100 μM, 1 mM, 10 mM) of glyphosate, three GBHs (Fozat 480, Roundup, and Glyfos), and two co-formulants for 4- and 20-hours. Cytotoxicity was assessed using the CCK-8 assay, and oxidative stress levels in HMWB cells were evaluated using the superoxide dismutase (SOD) assay. Cell viability and SOD activity were analysed using a spectrophotometer at 460 nm absorbance.

Results: Glyphosate alone did not significantly affect the cell viability. However, notable cytotoxic effects were observed in response to GBHs and adjuvants at concentrations as low as 100 μM. Furthermore, the Oxidative stress levels in cells treated with GBHs or adjuvants were significantly higher than those treated with glyphosate alone.

Conclusions: These findings suggest that the cytotoxic effects of GBHs are likely attributed to the adjuvants present in the formulations, which promote oxidative stress. Further studies are necessary to evaluate the health risks associated with using glyphosate-based herbicides, and co-formulants should be considered when assessing their safety.

Key messages:
- The safety of GBHs cannot be solely attributed to glyphosate itself but also to the other components in the formulation.
- Toxicity evaluation should take into account not only glyphosate but also the co-formulants present in these herbicides when assessing their safety.

Abstract citation ID: ckae144.1407
Picking a bone with fluoride – dose-response meta-analysis on exposure to fluoride and bone density

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There are still uncertainties around the effects, beneficial and adverse, of water fluoride exposure on bone density and strength. We selected bone mineral density (BMD) for investigation as it is recognized as the major non-invasive indicator of bone strength, representing its clinical assessment standard. The aim of this systematic review and meta-analysis was to characterize for the first time the relation between fluoride exposure and BMD through a dose-response approach, using a one-stage dose-response meta-analysis based on a cubic spline random-effects model. Out of 1201 potentially relevant literature records retrieved, after removing duplicates, title/abstract screening, and full-text evaluation, 16 studies were eligible for this review, 12 of which were also suitable for the dose-response meta-analysis. We observed an almost linear association between fluoride and BMD, yielding a mean difference of 2.60 (95% CI 0.17 to 0.40) at 4 mg/L of fluoride exposure. This pattern was also confirmed for hip BMD (MD = 2.83; 95% CI 0.11 to 0.40 at 4 mg/L). However, sex-specific analyses showed different patterns of association. In males, the relation between fluoride exposure and BMD was almost linear until 0.75 mg/L (MD = 0.24; 95% CI -0.22to 0.37), after which it plateaued. Females showed a slight increased BMD at 1 mg/L (MD = 0.05; 95% CI -0.02 to 0.16) but decreasing values above 2.5 mg/L (MD=-0.22; 95% CI -2.72 to 2.38 at 4 mg/L), with an indication of an inverted U-shaped association. This pattern was clearer when we restricted our analysis to hip BMD (MD=-0.56; 95% CI -2.98 to 1.85 at 4 mg/L). Sensitivity analyses examining both bone-specific BMD and conducting risk of bias assessments are currently underway. Moreover, imprecision of the estimates, especially in stratified analyses, and potential for residual confounding, underscore the need for further prospective studies, to more adequately assess the relation between fluoride exposure and bone density and strength.

Key messages:

- At fluoride exposure below 1 mg/L, we observed a linear correlation between fluoride exposure and increase bone density in the overall pooled dose-response analysis of eligible studies.
- Sex-specific patterns: males show positive response until certain exposure threshold; while females demonstrate an increase only at low doses of exposure and a downward trend at higher exposures.

Abstract citation ID: ckae144.1408
The effect of outdoor air pollution on Alzheimer's disease: a systematic review

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Air pollution is one of the largest global environmental risks to public health. Over recent years, neuroimaging techniques have started to uncover the detrimental impact air pollution has had on brain health, including the development of Alzheimer's Diseases (AD). We systematically reviewed the literature to evaluate the effects of long-term exposure (months to years) to outdoor air pollutants on the development of AD-like neurology. This review was registered on PROSPERO (CRD42023482979) and followed PRISMA guidelines. Four large databases (MEDLINE, Embase, Scopus, and CINAHL) were searched in November 2023 using terms associated with air pollution, neuroimaging, and AD. Only peer-reviewed primary research articles using neuroimaging data to examine AD-like pathology after long-term exposure to air pollutants (Particulate Matter (PM2.5, PM10), SO2, NO2, O3, and/or CO) were included. Titles, abstracts and full-texts were screened, and included articles were quality assessed using the Newcastle Ottawa Scale. A narrative synthesis was conducted to analyse the studies. Our search yielded 397 results, of which eight articles met our inclusion criteria. Articles focused on changes to white matter (n = 5), cortical thickness (n = 6), and grey matter (n = 2). Exposure to PM2.5 was commonly associated with white matter reductions, and PM10 and NO2 exposure was associated with reduced cortical thickness. The effect of exposure to different outdoor pollution on grey matter was inconclusive, with both increases and decreases in grey matter volume observed. This review highlighted how PM2.5, PM10 and NO2 exposure was associated with neurological changes commonly seen in AD. These findings can be used by policymakers and researchers to identify specific pollutants that need greater restrictions and regulations to improve population health.

Key messages:

- PM2.5, PM10 and NO2 exposure are associated with neurological changes commonly seen in AD.
- Greater restrictions and regulations are needed on specific pollutants to improve population health.

Abstract citation ID: ckae144.1409
Artificial sport surfaces and adverse effects for human health. A literature review

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The management of the Post-Consumer Tyres (PCTs) is still a hot topic. In 2021, the 27 EU Member States plus Norway, Switzerland, and the UK discarded 4,200 Ktons of PCTs. The main application of the rubber granules obtained from their recycling is represented by infill material in synthetic turf playgrounds. These widespread installations have become fundamental tools for the promotion of physical activity, especially among children. However, this material is in the spotlight for the presence in its composition of hazardous substances and for the small size of granules, which the European Commission classified as "microplastics". This review aims to clarify the scientific knowledge, focusing on the assessment of the bio-accessibility/availability of hazardous chemicals and the risk assessment for users. Eligible articles reporting original data were identified in CAB Direct, Embase, PubMed, Scopus, and Web of Science. The included articles (preliminary results) variously demonstrated the presence of PAHs, metals, volatile organic compounds, and phthalates in artificial biofluids (n = 9 articles). The risk assessment for these toxicants and the potential cancer risk induction (n = 19), revealed a risk for users from absent or negligible to potential, according to the exposure scenario considered and the relative assumptions, the contaminants, the exposure route, the age of the pitch, and characteristics of the rubber granules such as origin, concentration of the different toxicants, and particle size. The assessment of the potential hazard due to the exposure to artificial sports surfaces is anything but simple. Indeed, the crumb rubber compositions may vary in different settings and over time and can be variously influenced by the climate and environmental conditions, making it difficult to quantify the possible health effects, as well as the specific mixture, the quantities, and sources responsible for them (Funded by LIFE20 GIE FR 282 - RE-PLAN CITY LIFE).

Key messages:

- The bioccessibility of PAHs, metals, volatile organic compounds, and phthalates included in the infill material composition was variously demonstrated in literature.
- The assessment of the potential risks due to the exposure to synthetic turf, revealed a risk from negligible to potential, according to the exposure scenario considered and the relative assumptions.

Abstract citation ID: ckae144.1410
Self-reported health effects from wildfire smoke: A cross-sectional study in New York State

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Background: Wildfires and exposure to wildfire smoke (WFS) are forecasted to increase, in part driven by climate change. As witnessed in 2023, regions in Europe and North America are facing

more sustained periods of poor air quality due to WFS. Growing evidence suggests average daily WFS correlates with morbidity and mortality, but the impact of prolonged WFS exposure remains understudied, especially in areas where WFS is a newer occurrence. We examine associations between consecutive days of WFS experienced and self-reported health symptoms in the northeastern United States.

Methods: This retrospective cross-sectional study explored New York State (NYS) residents' experience with WFS in summer 2023 via an online survey. Participants reported the longest period of consecutive WFS days and symptoms experienced. Log-binomial regression models estimated prevalence ratios (PR) and 95% confidence intervals (CI).

Results: 553 NYS residents were included, representing a healthy, primarily female and White population, ranging from 18 to 86 years. 549 (99.3%) reported experiencing WFS, with the longest period of consecutive WFS days varying ($\leq$3 days: $n = 152$; 4 to 6 days: $n = 255$; $\geq$7 days: $n = 146$). 490 (88.6%) reported $\geq$1 health symptom, with itchy/watery eyes, sore throat, and headache as the most frequent. Compared to $\leq$ 3 consecutive WFS days, symptom prevalence was 9.1% higher for those reporting 4 to 6 days (PR [95% CI]:1.09 [1.00, 1.19]) and 16.7% higher for $\geq$7 days (1.17 [1.07, 1.27]). The trend of increased symptom prevalence with longer WFS periods persisted and was pronounced for specific symptoms. Control for potential confounders did not appreciably change estimates.

Conclusions: Our findings suggest longer sustained WFS exposure associates with higher symptom prevalence, which may be precursors to more serious health conditions. As global populations face more WFS with climate change, public health professionals should prioritize strategies to mitigate prolonged exposure.

Key messages:

- In a convenience sample of 553 primarily healthy New York State residents, 99.3% reported experiencing wildfire smoke and 88.6% reported at least 1 symptom of poor health during summer 2023.
- Associations between consecutive days of wildfire smoke experienced and prevalence of any and specific symptoms tended to vary in a dose-response manner.

Abstract citation ID: ckae144.1411
Sanitary Surveillance Program for pools in Matosinhos, Portugal

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The use of pools for sports, recreational, and therapeutic activities has increased over time. It is important to ensure and control the quality of the water and surrounding areas, as well as the hygienic-sanitary conditions of these spaces. The '2018 Pool Sanitary Surveillance Program' of the Portuguese Northern Regional Health Administration proposes the surveillance of water quality, teaching accessories, and surfaces. The aim of this investigation is to conduct microbiological analysis of the teaching accessories and surfaces in public pools in the municipality of Matosinhos and assess if this program has improved the results for water quality, teaching accessories, and surfaces from 2018 to 2023. The environmental health team of our Public Health Unit performed swabs of the teaching accessories and surfaces of all seven public pools in Matosinhos for microbiological analysis. The swabs were performed in 2018 (21), 2019 (48) and 2023 (42). During each visit, three random points were selected for analysis. In 2019, 31 rugs (64,6%) were analysed, but in 2023 only 10 (23,8%) were rugs. It was found that rugs had the highest contamination by P. aeruginosa (94,4%), fungi (60,8%), and the only sample with coagulase-positive Staphylococci. There was a decrease in samples from twelve to six with P. aeruginosa and an increase from 22 (46.8%) to 29 (69.0%) with fungi from 2019 to 2023. Bacterial colonies grew in 20 samples (95.2%) in 2018, 44 (91,6%) in 2019, and 42 (100%) in 2023. All water samples collected for the evaluation of microbiological parameters outlined obtained compliant results. Fungal and P. aeruginosa detection indicate a potential risk to the health of pool users. A quality report with corrective measures was produce for each pool in each visit. Surveillance of pool water, teaching materials and surrounding surfaces, is crucial to ensure water quality and safety. By doing so, we may lower the risk of disease transmission and protect the population's health.

Key messages:

- To ensure the safety of pool users is a public health challenge. It would be relevant to have legislation that addresses this issue.
- To survey pools and its surroundings and accessories must be a continuous task, allied with literacy to management and users.

Abstract citation ID: ckae144.1412
Unveiling mercury exposure sources in e-waste recycling with biomonitoring - A Portuguese case study

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Background: Mercury (Hg), a global pollutant, poses risks to both human and environmental health. The management and recycling of electrical and electronic waste (e-waste) is recognized as having the potential to promote workers' exposure to this pollutant. Human biomonitoring (HBM) is a tool that can be used to evaluate exposure and monitor the health of workers. The objective of this study was to characterize exposure of workers from an e-waste recycling company and to analyze the relevance that HBM holds in the detailed characterization of exposure.

Methods: A cross-sectional observational study was conducted using data collected within the framework of the European Human Biomonitoring Initiative (HBM4EU). Data from environmental monitoring (settled dust) and biological monitoring (urine and hair) of 30 workers potentially exposed to Hg were analyzed in comparison with 12 unexposed workers from other occupational settings (controls).

Results: Exposed workers did not exhibit significantly higher concentrations of Hg in urine when compared to control workers. We found a significantly positive correlation between the concentration of Hg in urine ($\rho = 0.688$; $p \leq 0.001$) and hair ($\rho = 0.470$; $p \leq 0.01$) and the consumption of fish and shellfish.

Conclusions: Diet appears to be the most significant source of Hg in this context. These results suggest the importance of information and dietary habits to prevent mercury exposure. HBM stands out as an essential tool for identifying the most relevant exposure sources and risk management measures for workers and the general population.

Key messages:

- Diet appears to be the most significant Hg source in workers from a Portuguese e-waste company.
- HBM stands out as essential for identifying the most relevant exposure sources and risk management.

Abstract citation ID: ckae144.1413
Attitude of Romanian students and their families concerning waste management

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Waste recovery, recycling included, is an important step in waste management, preceding final disposal. In 2018, according to Eurostat, the recycling rate of municipal waste was 47% in the European Union and only 11.1% in Romania. Thus governmental institutions have implemented new measures in order to reduce environmental pollution by ineffective waste management. In 2022, 535 students aged 22-24.5 years, males and females, studying in Craiova (one of the six largest academic cities of Romania), were asked to answer an 18-item questionnaire regarding their and their families' attitude towards waste recycling. Most of the students (60.7%) were residents in the university city, while the others - in smaller cities or in villages of the region. Only 38.3% of the subjects ($N = 205$) declare their families recycle waste; the most common excuse for no-recycling (37.8%) is the lack of recycle bins in the house proximity. Only 20 families (3.7%), all of them living in Craiova, take the fried oil to collecting points in supermarkets; most of the others eliminate it in the sewerage system, especially those from outside the city ($p < 0.01$). Seventy-five students (14%) are not able to mention any recent measure taken by the government in order to reduce plastics environmental pollution; the others discuss about the increased number of recycle bins around the city (53.2%), recycling of single-use plastics (34.5%) or use of biodegradable bags (25.2%). No-recycling (42%), using daily his/her own car (18.7%, $p < 0.01$ males vs. females), using too much plastics (11.2%) are the most frequent self-reported students' disregards for the environment. Most of the subjects consider environmental health of essential importance (88.7%) and would like to participate in environment protection actions (92.5%). Romanian students seem to have a positive attitude and like to be involved in the environment protection, without a significant influence regarding the gender and the residence place.

Key messages:
- Education and information are essential tools to make people ecologically aware.
- Recycling is one of the best ways to have a positive impact on both natural and community environment.

Abstract citation ID: ckae144.1414
School canteens healthier for children and the planet in the Valencian Region

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Issue: SchoolFood4Change (SF4C), an EU Horizon 2020 project in 12 EU countries, aims at making school meals healthier for children and the planet through innovative and sustainable food procurement, promotion of planetary health diets and cooking, and a Whole School Food Approach. In the Valencian Region two subsequent market dialogues (MDs) were organised to explore a new school food procurement and feeding model.

Description: In our context, most children have lunch at school daily. SF4C sees schools as catalysts for a systemic change. Two intersectoral MDs were conducted with the participation of public authorities, food procurers, cooks and schools. The first one MD1, 23 attendees, used a gamification dynamic through building blocks. MD2, 58 participants, used a World Cafe methodology to analyse nutritional, environmental, educational, social and economic determinants.

Results: MD1 highlighted the need to increase food education in the curricula, value regional products and cuisine, improve culinary training and reduce food waste. It suggested establishing percentages of local and organic products in tenders and improving communication between the public administration and the educational community. MD2 emphasised the objective of promoting the Mediterranean diet and sustainability in canteens. To that end, participants identified the importance of establishing requirements in public tenders, annual planning of procurement, optimising logistics and integrating the canteen into the educational project. This would enhance predictability, economic sustainability, and social support for a new innovative model.

Lessons: Structured interaction between stakeholders was essential to devise innovative and sustainable solutions. The creation and dynamization of intersectoral working groups is an effective public health strategy to build networks for the co-creation of viable alternatives to achieve a healthier and more environmentally sustainable school feeding.

Key messages:
- Structured interaction in intersectoral working groups is an effective public health strategy for the co-creation of viable alternatives to make school feeding healthier for children and the planet.
- Tailored innovative and sustainable solutions entail a framework for structured discussions, specific context analysis, negotiations between stakeholders and locally adaptation of good practices.

Abstract citation ID: ckae144.1415
Exposure to microplastics via hemodialysis: differences between women and men

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Background: Hemodialysis (HD) may contribute to microplastics (MPs) burden in dialysis patients. The aim of the study was to estimate any differences in exposure to MPs between cases (on dialysis patients) and controls (not on dialysis patients), investigating any sex differences.

Methods: We organized a case-control study. Both cases and controls were recruited at the Policlinic "G. Rodolico-San Marco" Hospital Nephrology Unit. Preparation and determination of MPs smaller than 10 µm in blood samples were carried out using a patented method (Italian Patent n. 102018000003337-07 March 2018, European Patent n.3788344 20 July 2022) and SEM-EDX electron microscopy analysis, respectively.

Results: A convenience sample was recruited including 15 dialysis (60.0% women) and 10 not on dialysis patients (60.0% women) with a median (IQR) age of 77.0 (59.0-83.0) in dialysis patients and 65.5 (49.3-79.0) in those not on dialysis. No significant differences were found between cases and controls on the consumption of bottled water (100% vs 80%, $p = 0.07$), bagged foods (93.3% vs 70%, $p = 0.12$) unlike the use of drugs (100% vs 70%, $p = 0.02$). Women in general declared a greater use of drugs than men (F 93.3%, M 80.0%, $p = 0.32$). Dialysis patients had higher MPs levels than non-dialysis patients [9132(4896-15847) vs 3554(1661-7340), p-value=0.06]. In particular, female dialysis patients had values comparable to males [9132 (4665-17205) p/d vs men: 10438 (3672-16699) p/d] while non-dialysis female patients had higher levels than males [3274 (1681- 7814) p/g vs 1661 (1661-3354) p/g]. No difference was detected about the diameter of the MPs (IQR) [dialysis patients 4.28 (3.72-4.66) μm vs non-dialysis patients [4.67 (4.15-5.08) μm].

Conclusions: Future studies must focus on studying the relationship between exposure to MPs and their levels in dialysis patients as well as investigating the differences between men and women and the possible consequences of dialysis as a further source of exposure.

Key messages:

- On dialysis patients, both men and women, had higher MPs exposition compared to not on dialyzed ones.
- Not on dialysis women had higher MPs levels than not on dialysis men.

Abstract citation ID: ckae144.1416
Long-term ozone exposure and asthma: a systematic review and meta-analysis

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Background: Ambient air pollution, particularly surface ozone, is a significant global health concern, with 9 out of 10 people exposed to levels exceeding WHO guidelines. This exposure is linked to approximately 7 million premature deaths annually, a number expected to double by 2050. While the effects of short-term exposure to ozone on exacerbation of asthma symptoms and mortality are well-documented, the impact of long-term exposure remains unclear.

Aim: This systematic literature review aims to quantify the association between long-term exposure to ozone and asthma incidence and prevalence and derive an exposure-response relationship.

Methods: International electronic databases, including PubMed, Embase, Cochrane Central Register of Controlled Trials, and Web of Science, were searched, supplemented by grey literature sources such as Google Scholar and WHO - Global Index Medicus from conception to July 31, 2023. Observational epidemiological cohort, case-control, or cross-sectional studies reporting quantitative associations between exposure and outcome were included. Meta-analysis will synthesize effect size estimates using a Meta-Regression - Bayesian, Ensemble, Regularized, Trimmed (MR-BRT) model.

Results: A total of 5,947 titles were initially identified from databases, and following the removal of duplicates, 3,235 titles and abstracts were screened, resulting in 84 articles deemed eligible for full-text review. The full-text screening identified 29 studies comprising 38 articles. A comprehensive overview of the included studies will be provided. We will describe the study settings, design, and measurement methods used by the identified studies. Furthermore, results of the MR-BRT model will be summarized, and exposure-response functions will be discussed. Funding: This work is part of the BEST-COST project which is funded by the European Union's Horizon Europe programme under Grant Agreement No.101095408.

Key messages:

- This research fills the gap in understanding the association between long-term exposure to ambient ozone and asthma incidence and prevalence.
- Developing exposure-response functions would enable estimation of the disease burden associated with long-term ozone exposure.

Abstract citation ID: ckae144.1417
Distribution of the Culex pipiens mosquito in mainland Portugal: a geospatial modelling study

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Background: The mosquito Culex pipiens is a vector for several pathogens, such as the West Nile virus. As the most abundant mosquito in Portugal, understanding its spatial distribution can support vector-borne diseases control and robust public health planning, given the mainland's favourable climate for this vector. Information on its spatial distribution at a national level is limited, especially its association with climate variables. Thus we aimed to predict the suitability of Culex pipiens distribution in mainland Portugal, considering climate factors.

Methods: We used presence records for adult and larvae of Culex pipiens mosquitoes sampled across mainland Portugal from January 2017 to October 2023, as part of the Portuguese Vector Surveillance Network program (REVIVE). Between May-October, in random locations and throughout the year in point-of-entry sites, adult mosquito collection used CDC light traps and BG-Sentinel traps, and larvae collection used dippers in breeding sites. Sampling bias was corrected by filtering presence sites, retaining one record per each cell grid of 1 km2. Climatic data (including temperature, precipitation and elevation) were used as predictors in a maximum entropy (MaxEnt) model of the Culex pipiens geographical distribution.

Results: From the dataset of 6859 records, 1416 unique sites were obtained after filtering. Suitable habitats seem to be mainly distributed on the coast, particularly in Minho, Porto and Lisbon metropolitan areas, and Tagus Valley, with precipitation as the most important predictor.

Conclusions: Most West Nile Virus case reports come from the south of Portugal, but the potential distribution of Culex pipiens covers the whole mainland territory, with seemingly higher distribution on the north coast. However, bias due to convenience sampling could be present. West Nile vector surveillance should be a priority across all regions to accurately assess transmission risk and implement effective control measures.

Key messages:

- The suitability of Culex pipiens distribution covers the entire mainland of Portugal, with higher presence in the north.
- The distribution of Culex pipiens in the country points towards a need for developing region-specific strategies regarding West Nile Virus prevention and control.

Abstract citation ID: ckae144.1418
The burden of lung cancer attributable to ambient PM2.5 exposure: a systematic literature review

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Background: Lung cancer is recognized as one of the most common causes of cancer morbidity and mortality worldwide and is the second cause of death with highest years of life lost in highly developed regions. Ambient exposure to particulate matter (PM2.5) is the leading global environmental risk factor. Long-term exposure to PM2.5 is associated with several health outcomes, including lung cancer, ischemic heart disease, and chronic obstructive pulmonary disease.

Aim: To review and estimate the impact attributable to PM2.5 exposure due to lung cancer.

Methods: A systematic review and a meta-analysis were conducted to determine whether long-term exposure to PM2.5 increases the risk of lung cancer and to derive exposure-response relationships between PM2.5 and lung cancer. The literature search was performed in databases (i.e., Pubmed/Scopus) and studies published from January 1, 2010 onwards were considered. Studies describing the association between long-term exposure to the pollutant under research and the incidence, prevalence, and mortality of lung cancer, considering a relative measure of association were included, with no restriction in geographical area.

Results: In the literature review, 2215 articles were considered for the first step of data synthesis, all articles were screened, considering the screening of titles (first step), abstracts (second step) and full-text (third step) considering the inclusion criteria. In a second step the data was extracted from the included articles ($n = 129$) and considering the variables related to the characteristics of the study and the study population, exposure, and outcome measurement, and details of risk of bias assessment.

Conclusions: These findings provide data to synthesize effect size estimates using a Meta-Regression - Bayesian, Ensemble, Regularized, Trimmed (MR-BRT) model, important to provide evidence data on the impact of air pollution on human health, which is crucial for decision-making.

Key messages:

- Long-term exposure to PM2.5 increases lung cancer risk so the estimating of the impact of the exposure is an urgent need to provide evidence-based data for air quality improvement.
- Meta-analysis aims to establish a relation between PM2.5 exposure and the burden of lung cancer.

Abstract citation ID: ckae144.1419
Outdoor artificial light at night and risk of conversion from mild cognitive impairment to dementia

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Background: A few studies have suggested that exposure to lighting during night hours, i.e. light at night (LAN), may increase the risk of dementia. In this study, we aimed to evaluate the association between exposure to outdoor artificial LAN and risk of conversion to dementia in an Italian cohort of subjects with mild cognitive impairment (MCI).

Methods: We recruited subjects with a diagnosis of MCI at the Cognitive Neurology Clinic of Modena Hospital in the period 2008-2014, and we followed these subjects up to 2021 for conversion to dementia. We collected their residential history and we assessed LAN exposure at subjects' residences using satellite imagery data available from the Visible Infrared Imaging Radiometer Suite (VIIRS) for the period 2014-2022. Using a Cox-proportional hazards model adjusted for relevant confounders, we computed the hazard ratio (HR) of dementia with 95% confidence interval (CI) according to increasing LAN exposure through linear, categorical, and non-linear restricted-cubic spline models.

Results: Out of 53 recruited subjects, 34 converted to dementia of any type including 26 Alzheimer's dementia. In linear regression analysis, LAN exposure was positively associated with dementia conversion (HR 1.03, 95% CI 1.00-1.06 for 1-unit increase). Using as reference the lowest tertile, subjects at both intermediate and highest tertiles of LAN exposure showed increased risk of dementia conversion (HRs 2.26, 95% CI 0.88-5.85, and 2.89, 95% CI 1.10-7.58). In spline regression analysis, the risk linearly increased up to a LAN exposure of 30 nW/cm2/sr, above which a plateau seemed to be reached. Results were almost confirmed when limited to conversion to Alzheimer's dementia, except for an almost linear relation.

Conclusions: Our findings suggest that exposure to outdoor artificial LAN may increase conversion from MCI to any type of dementia, especially above 30 nW/cm2/sr, while such relation appears to be almost linear for Alzheimer's dementia.

Key messages:

- Light at night exposure above 30 nW/cm2/sr was associated with risk of conversion to dementia.
- Light at night showed almost linear association with risk of conversion to Alzheimer's dementia.

Abstract citation ID: ckae144.1420
Fluoride exposure and risk of fractures: a systematic review and dose-response meta-analysis

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Introduction: Fluoride (F) is a widespread natural element, whose exposure occurs mostly through drinking water, fluoridated foods and use of toothpastes. At high levels, it may adversely affect human health by altering thyroid and cognitive function in children, and inducing dental and skeletal fluorosis. Since bone health significantly impacts quality of life, we performed a systematic review and meta-analysis to evaluate the effect of F exposure on risk of bone fractures.

Methods: We conducted a literature search in online databases and selected studies that were carried out in humans and reported risk estimates with 95% confidence intervals for bone fractures according to F exposure. We eventually performed a meta-analysis using a random effects model, comparing the highest versus the lowest exposure, and one-stage dose-response model, to explore the shape of the association.

Results: Of the 1052 potentially eligible articles, 28 were included in the quantitative analyses. Most studies were conducted in adults (n = 26) and in Western countries (North America=16, Europe=11) and assessed fluoride exposure in drinking water, urine, serum, toenail or diet. The preliminary dose-response curve showed a positive non-linear relation between F exposure through drinking water and bone fracture risk, regardless of site, starting at 1.5 mg/L. Sex-stratified analyses, based on a lower number of studies, showed similar trends, with an indication of higher susceptibility in males compared with females.

Conclusions: Overall, risk of bone fractures appears to non-linearly increase along with exposure to fluoride in drinking water, regardless of bone site and sex, at levels of exposure above the WHO standard and similar to those that have associated to altered thyroid and cognitive function. Under a public health perspective, fluoride in drinking water should be kept below 1.5 mg/L to prevent bone fractures.

Key messages:

- Our analysis revealed a positive non-linear association between fluoride in drinking water and bone fracture risk.
- Public Health actions should be oriented in keeping fluoride in drinking water below 1.5 mg/L to prevent bone fractures.

Abstract citation ID: ckae144.1421
Mercury contamination of soil and Matricaria chamomilla in selected regions of the Slovak Republic

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Background: The aim of our study was to determine the amount of mercury in Chamomile. In certain parts of Slovakia, such as Middle Spiš region in Eastern Slovakia, there has been reports of higher concentration of mercury in the soil. Heavy metals, including mercury, can enter human organism by ingestion. In case of using Chamomile infusions orally there is a risk of administration of mercury into the organism through digestive system.

Methods: We monitored mercury presence in Chamomile (Matricaria chamomilla) (n = 20) and the soil. We determined the mercury concentration by using the flameless atomic absorption spectrometer - Advanced Mercury Analyzer (AMA-254).

Results: Chamomile: The lowest concentration was in the roots (0.513 mg.kg^{-1}). The second lowest was in the flower stem samples (1.105 mg.kg^{-1}). The concentration of mercury was higher in the leaves (2.205 mg.kg^{-1}). The highest was measured in the flower (2.541 mg.kg^{-1}). Soil: The mercury content in soil in the entire territory of Slovakia is higher compared to the soil in the world. During our measurements, the concentration of mercury in the soil samples in the territory of Middle Spiš ranged from 100 to 500 mg.kg-1.

Conclusions: We have to take into account that the quality and contents of the soil are important for the crops, as it will entail their contents. With the knowledge of exceeded norms of mercury content in Slovak soils, it is crucial to monitor the mercury concentration in plants that are harvested there.

Key messages:

- In the examined samples of Chamomile we found mercury, with its highest concentration in flowers and lowest in roots.
- In the regions with significant mercury contamination it is crucial to monitor mercury content in harvested plants and to be cautious in regards of their consumption.

Abstract citation ID: ckae144.1422
Health burden and economic costs of vector-borne diseases in Italy: the AUSL Romagna case

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Introduction: Vector-borne diseases (VBDs) are a serious threat for global health, representing around 17% of communicable diseases and more than 700.000 deaths every year. In Europe, and especially in Italy, this is a subject of growing concern, due to the increase of VBDs outbreaks that need vector control plans.

Objectives: Evaluate the 2013-2022 trend of VBD outbreaks within the AUSL Romagna area (provinces of Ravenna, Rimini, and Forlì-Cesena, in Emilia-Romagna Region, Italy) and the economic impact caused by hospitalizations and local prevention/disinfestation treatments.

Methods: We used aggregated and anonymized data from 3 informative systems: communicable disease system (SMI) for VBD prevalence; hospital discharge records (SDO) for hospitalizations, with a contribution of the VBD-related Diagnosis Related Groups (DRG); municipality records regarding the cost of dedicated interventions for vector prevention and disinfestation, communicated to the Emilia-Romagna Region.

Results: For the area of interest, 479 cases of VBDs were notified from 2013 to 2022, with a slight increasing trend over the years. Through hospital SDOs, 252 cases were identified with a diagnosis of VBD, plus 283 with a VBD-related DRG, with a total expenditure of €9.587.777. The distribution was not uniform between the provinces, Ravenna having the highest expense. The municipality records highlighted expenses for €95.443 for prevention and control interventions against mosquitoes, with a very variable trend over the period considered. Forlì had the highest expense.

Conclusions: VBDs show a highly variable trend and distribution during time, also in relatively small, sub-regional areas. The Emilia-Romagna regional plan against arboviruses, annually updated, can contribute to reduce this specific health and economic burden, lowering transmission among the population and resulting hospital pressure, thanks to prevention and timely interventions.

Key messages:

- The use of information systems enables monitoring of the impact of arboviruses, as well as the related cost for hospital care and local treatments.
- Putting in place an effective and updated plan against arboviruses, like the Emilia-Romagna Region one, helps managing VBDs and mitigating economic costs.

Abstract citation ID: ckae144.1423
Monitoring of mosquito breeding sites in the municipality of Cascais, Portugal

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Culex pipiens is the primary West Nile Virus vector in Portugal. Additionally, in 2017, Aedes albopictus, vector of various arboviruses, was detected in Northern Portugal. To mitigate viral transmission risks, effective surveillance is crucial, including monitoring egg, larva, and pupa stages. Located on the west of Lisbon, Cascais implemented a surveillance based on monitoring invasive species at Points of Entry and, complementarily, on detecting and intervening in breeding sites. Active searches for new breeding sites and monitoring those that were already identified are conducted weekly during the peak mosquito season (May to October) and biweekly during the colder season (November to April), following the methodology outlined below: • Upon detection, samples of immature stages are collected for submission to the National Institute of Health (INSA); • Corrective measures are requested to the managing entities of the locations where the sites are found; • Date of action, location, collection point, date of report, and status (pending or intervened) are recorded on a database; • Locations with pending status undergo continuous monitoring.

In 2023, 16 artificial breeding sites were identified. These findings resulted from 23 actions conducted across 8 locations. 35 samples of immatures were collected, followed by their submission and notification to the respective managing entities. Recurrent detections were noted in 9 breeding sites. The managing entities implemented measures at 13 of the identified sites, leaving 3 with pending intervention. The identification of breeding sites demands continuous monitoring efforts and requires an effective coordination between the Public Health services and the management entities. Based on the achieved outcomes, it is evident that the implementation of corrective measures has been successful, making a significant contribution to reducing mosquito density.

Key messages:

- Effective surveillance and intervention strategies are crucial in mitigating West Nile Virus and arbovirus transmission risks in Portugal.
- Continuous monitoring and coordination between public health services and management entities are key for maintaining effective vector control measures.

Abstract citation ID: ckae144.1424
Microbial source tracking to address of bacterial contamination in recreational waters

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Background: Beach closures in the USA are determined by fecal indicator bacteria thresholds, which are insufficient to identify causes of contamination. We use microbial source tracking (MST) to identify the species source of bacteria entering chronically impaired waters. We find canine bacteria is the primary source of high E.coli levels and demonstrate the power of MST for direction of remediation efforts.

Methods: This environmental sampling study was performed in Short Beach, Branford, Connecticut, USA. Water samples were collected from outfalls under wet and dry precipitation conditions by 10 Citizen Scientist volunteers. The highest E.coli samples were analyzed for avian, human, and canine markers using MST.

Results: E.coli from 103 samples was tested from April-October 2023. Pearson's r between average site E.coli and same day precipitation was 0.71 (p-value = 0.006). Among the high E.coli samples, 19 (76%) were low/non detectable, 5 (20%) were moderate, and 1 (4%) were high for human tracers; 10 (50%) were low/non detectable and 10 (50%) were moderate for avian tracers, and 3 (15%) were low/non detectable, 11 (55%) were moderate, and 6 (30%) were high for canine tracers.

Conclusions: Precipitation is a driver of elevated bacteria levels. Canine bacteria is likely the primary source of elevated bacterial levels in beach waters, while avian contributors are of moderate concern and human contributors are of low concern. As a result, an education campaign and watertight waste receptacles, rather than costly sewer line replacements, are being deployed to improve beach quality.

Key messages:

- Use of microbial source tracking found canine bacteria is the likely driver of elevated E.coli levels in local beaches, initiating a community education campaign rather than costly sewer replacements.
- Microbial source tracking technology offers a powerful public health tool for identifying causes of bacterial contamination in chronically impaired recreational waters.

Abstract citation ID: ckae144.1425
Spatially varying associations between community-level predictors and COVID-19 outcomes in NYC

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Background: The cumulative impacts of COVID-19 on hospitalization and mortality were not uniformly distributed across New York City (NYC). To better understand potential drivers of this observed geospatial disparity, we explored the associations between community-level sociodemographic characteristics and cumulative COVID-19 hospitalizations and mortality using geographically weighted Poisson regression (GWPR).

Methods: Cumulative COVID-19 hospitalization and mortality rates in 177 NYC modified ZIP code tabulation areas as of Dec 2022 were taken from the NYC Department of Health and Mental Hygiene, and sociodemographic predictors were taken from the 2018 American Community Survey. GWPR was applied using both non-multiscale (single bandwidth) and multiscale (flexible bandwidth) models to assess which predictors were significant and which associations varied spatially (allowing them to potentially act as both risk and protective factors, depending on the location).

Results: Multiscale GWPR models outperformed non-multiscale models in rendering residual spatial autocorrelation insignificant. Although multiscale GWPR allowed flexible bandwidths for each predictor, most yielded global bandwidths, suggesting geographically consistent effects. For mortality, the percent of residents without health insurance acted solely as a risk factor. Similarly, for hospitalizations, the percent of residents with a disability acted solely as a risk factor. The percent of residents with a bachelors degree or higher acted solely as a protective factor against both outcomes.

Conclusions: Even when associations were allowed to vary spatially in GWPR models, we still found geographically consistent associations between many sociodemographic predictors and cumulative COVID-19 outcomes in NYC. Consistent risk factors, such as prevalence of disability, or protective factors, such as prevalence of higher education, highlight potential areas for city-wide policies to reduce the burden of future epidemics.

Key messages:

- For cumulative COVID-19 outcomes across NYC communities, geographically consistent risk factors include disability prevalence for hospitalization and lack of health insurance for mortality.
- Increasing prevalence of higher education acted as a geographically consistent protective factor against both hospitalization and mortality due to COVID-19.

Abstract citation ID: ckae144.1426
Development of an air quality communication strategy with underserved groups

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Air quality is the greatest environmental health threat. Effective communication can support individuals to take actions to protect themselves, however, we know some groups are less likely to engage with exposure reducing behaviours than others. We aimed to explore what information individuals want to receive about raised air pollution levels, when, where and how they would like to receive it. In this qualitative study individuals participated in either semi-structured interviews (n = 6) or focus groups (n = 8) in North East England between Oct23-Feb24. We used purposive sampling underpinned by extensive community-based engagement to ensure inclusion of those who were underserved and/ or at risk of digital exclusion. The Capability Opportunity Motivation-Behaviour model was used to help guide discussions and the data thematically analysed using an inductive approach. Fifty individuals participated, many of whom were of non-white ethnicity (n = 23, 46%), spoke English as an additional language (n = 12, 24%), and had lower educational attainment levels (i.e., no-qualifications n = 7, 14%). Participants discussed four aspects that they deemed important to include in air quality communication: (1) the risk and harms of air pollution should be stated, and be tailored because "what's a dangerous level for one person isn't a dangerous level for another"(P41) (2) Participants felt detail about the pollutants should be included such as: "what is causing the air pollution?"(P15) to "avoid the exposure to this source"(P21). (3) Messages should also include actionable recommendations about how to protect oneself and, (4) various ways to communicate these messages (text-message-based approaches being the most popular) were suggested. Our findings indicated using a combined communication strategy including text messages and community-based approaches. This work can inform the development of inclusive future air quality information communication

Key messages:

- Effective communication can support individuals to take actions to protect themselves from air pollution.
- A combined communication strategy including text messages and community-based approaches were suggested as being effective communication strategies.

Abstract citation ID: ckae144.1427
Reducing the climate impact of food choices with comparable nutritional quality: a randomised trial

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Background: Diets largely contribute to the global disease burden, and a third of global warming emissions. We assessed the climate footprint reduction effect of framing the climate impact of diets as a collective action problem (social dilemma), compared or in combination with a reflective intervention (information) and a choice architecture intervention (nudge). Interactions with lifestyle factors were examined.

Methods: A randomised 2X2X2 between-subjects online experiment was conducted among university students $\geq$18 years, enrolled at a Swiss university, and not following a medically prescribed diet. The outcome was the mean climate footprint of food choices (in kg CO2-eq), based on a Life Cycle Assessment. Meals varied in climate footprints while adhering to the Swiss dietary guidelines.

Results: This analysis focused on the subset of meat eaters (n = 1691). Median age was 24 years, and 59.85% (n = 1012) were female. Seven intervention groups resulted in significantly lower climate footprints compared to the control. The social dilemma plus a nudge menu was the most effective behavioural intervention leading to 20.20% footprint reduction (b = -1.20 kg CO2-eq) compared to the control group (Mcontrol=5.94, SDcontrol=2.76; Mdilemma+nudge=4.74, SDdilemma+nudge=2.09 t(436) = -5.10, $p < 0.001$). Lifestyle factors linked to a higher climate footprint of food choices included adhering to a low-calorie diet (b = 1.21 kg CO2-eq, $p < 0.05$), or a muscle gain diet (b = 2.12 kg CO2-eq $p < 0.05$) and practising physical activities (PA) while adhering to a muscle-gain diet (Aerobic/Cardio: 3.82 kg CO2-eq, $p < 0.05$; Muscle-strengthening: 2.24 kg CO2-eq, $p < 0.05$).

Conclusions: The combination of reflective collective action communication and menu nudges is an effective strategy to mitigate the climate footprint of food choices in education institutions. Adherence to a muscle-gain diet was identified as a critical but manageable lifestyle factor linked to a higher climate footprint.

Key messages:

- The dilemma plus a nudge was the most effective to reduce the climate footprint of food choices.
- This combined intervention can manage the high climate footprints linked to lifestyle factors.

Abstract citation ID: ckae144.1428
Adapting the Place Standard Tool for Border Regions: The Euregional Approach

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The Place Standard Tool (PST) is a well-established tool that helps policymakers and communities discuss which aspects of a place - like buildings and transportation or the the way people are involved in decision making concerning their surroundings - need attention in order to improve public health. Even though the PST is widely used in many countries, it primarily focuses on a national level, overlooking the fact that 35% of EU citizens live in border regions. Many people living in these areas cross national borders for work, school, or social activities, so their everyday lives span more than one country. Using this tool to develop policies may ignore the real needs of border residents or even exclude their views, which can have a significant impact on their lives. To address this, the euPrevent Active Citizenship Participation (ACP) project adjusted the tool for a cross-border setting in the Euregio Meuse-Rhine (EMR). In this project, the German version of the StadtRaumMonitor, which is based on the PST, was modified to include questions that reach beyond national borders. This adaptation encourages people to respond to questions not just from a national perspective, but also to reflect on their experiences in neighboring countries. It was further translated into the four languages: French, German, Dutch and English, and made available online across the entire border region, which is home to nearly 4 million people. Moreover, the Euregional PST was effectively tested with local and cross-border citizen panels, and it's set to become a key element in creating a sustainable framework for citizen participation within the EMR. And although this Euregional PST was initially developed for the border regions of the EMR, the modifications are such that the tool can be applied in no matter which European border region. Thereby, the Euregional PST offers a way to create policies that truly reflect the diverse needs and realities of border citizens, all over Europe.

Key messages:

- The Cross-border Place Standard Tool EMR is easy to apply for a broad spectrum of stakeholders in border regions and applicable to all border regions in Europe.
- The tool helps preventing policy issues by considering the entire context of people living in border areas.

Abstract citation ID: ckae144.1429
Cancer mortality attributable to air pollution in Slovakia

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Introduction: Air pollution is considered one of the most significant global environmental health risks. According to the Global Burden of Disease estimates, fine particulate matter, a key component of ambient air pollution, was the fifth leading risk factor for mortality worldwide in 2015, contributing to 4.2 million deaths (7.6% of total global deaths). In 2019, ambient air pollution was responsible for 4.5 million deaths. This rise is attributed to the growing levels of air pollution and the increasing incidence of NCDs associated with air pollution.

Aim: This contribution aims to clarify the possible association between environmental air pollution and cancer in Slovakia in the years 2015-2019 overall and by gender and age.

Methodology: This ecological study focuses on the population of Slovakia from 2015 to 2019. The data used are from the Global Burden of Disease study (IHME, 2019), the Statistical Office of the Slovak Republic and the Slovak Hydrometeorological Institute.

Results: In 2019, mortality from NCDs related to environmental pollution accounted for 6.6% of total mortality in Slovakia, which is lower than the global average of 8.3%. Cancer mortality attributable to ambient particulate matter pollution (APMP) was lower in 2019 (2.97 per 100,000, CI 95% 4.43-1.76) than in 2015. Higher cancer mortality rates attributable to APMP, were observed mainly in men (7.18 per 100,950, CI % 10.67-4.31 in 2015) and especially in the 80-84 age group (59.49 per 100,000; CI 95 % 94.60-32.20) in 2015 and in men aged 75-79 (510.76 per 510.76 per 100,000) in 2019.

Conclusions: While Slovakia has experienced a long-term decline in cancer mortality, bucking the global trend, challenges persist due to the country's relatively poorer outcomes associated with environmental pollution. Addressing environmental pollution remains a critical aspect of ongoing efforts to enhance population health through targeted strategies and policies.

Key messages:

- The significant impact of environmental pollution on cancer mortality underscores the urgent need for targeted interventions and policies to improve public health outcomes in Slovakia.
- Cancer mortality attributable to air pollution differs by gender.

Abstract citation ID: ckae144.1430
Assessing inequalities and inequities in Health Impact Assessment: a systematic review

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Background: Health Impact Assessment (HIA) procedures can include the assessment inequalities and inequities associated with the distribution of environmental health risks and benefits, attenuating the exacerbation of health disparities in this domain. However, prevailing approaches to tackle inequalities in accessing ecosystem services exhibit limitations. We explored how this kind of assessment in HIA procedures is documented within the international literature.

Methods: Following PRISMA Guidelines, we conducted a systematic review of scientific literature by searching in MEDLINE/PubMed, Scopus, and Embase databases up to 8 March 2024. Moreover, a grey literature analysis was conducted, examining the World Health Organization's Institutional Repository for Information Sharing (IRIS) to identify guidance considering equity in HIA.

Results: Eight out of 158 documents identified on IRIS, using 'health impact assessment' as a filter, underscore the importance of integrating the equity domain into the HIA; of these, only 1 employs methodologies to actively consider it. Of the 806 literature studies analyzed, only 14 included used methods to evaluate inequalities and equity in HIA in various contexts, ranging from urban planning, such as green or redeveloped areas, and transport planning, to mining. Preliminary results show that in most studies, data were collected through surveys, focus group discussions, and peculiar "walks" with local experts. The predominant approaches in extant literature entail the use of socioeconomic status and health determinants as metrics for assessing equity and inequalities within HIA.

Conclusions: Our findings highlight a critical gap in integrating equity into HIA practices, with limited attention and methodological diversity observed across the analysed documents and studies.
Strategies for probing and mitigating inequalities can be strengthen by engaging different stakeholders and the residing population.

Key messages:

- There are few and highly heterogeneous methods for assessing inequality in HIA.
- An effective and standardized strategy to asses inequality in HIA could involve stakeholders and the resident population.

Abstract citation ID: ckae144.1431
Exposome, oxidative stress and inflammation in multiple sclerosis: the EXPOSITION study protocol

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Background: The functional exposome approach examines the relationship between biological effects (internal exposome) and the sum of environmental exposures (external exposome). Multiple sclerosis (MS) is characterized by selective demyelination and acute inflammation; miRNAs and microbiota are emerging in the pathogenesis as inflammation and oxidative stress biomarkers. The EXPOSITION study protocol has been designed to study such biomarkers variation in response to the external exposome (air pollution, urbanization, lifestyles) in people with MS (pwMS).

Methods: EXPOSITION is a cross-sectional observational study collecting a sample of 200 pwMS residing in Lombardy, Northern Italy. Sample size is based on the prediction of differential expression of candidate miRNAs through bioinformatic analyses. All participants will be investigated for social, demographic and clinical data as well as general and specific external exposome factors. The internal exposome factors will be collected for each participant from blood and stool samples, as well as from nasal swabs. Exposome clustering and correlation statistical techniques will be applied and variation of miRNA and microbiota will be tested in association with the variation of the external exposome in urban and extra-urban environments.

Results and conclusions: The expected results will help pwMS and researchers understanding which biomarkers and which components of the external exposome are associated to oxidative stress and inflammation, to improve precision medicine and contrast disease progression. The relationship between urban exposome and biodiversity is an important dimension in the study of environmental impact on human health. This study may provide preliminary data to assess which nature-based solutions are suitable for enhancing the biodiversity of urban areas.

Key messages:

- The functional exposome approach could be used to link environmental risk factors and disease biomarkers using the right methology.
- EXPOSITION will quantify the variation of miRNA and microbiota in association with the variation of external exposome, in urban and extra-urban environments.

DH. Poster display: Epidemiology

Abstract citation ID: ckae144.1432
BMI Trajectories and the Influence of Missing Data

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Introduction: Body Mass Index (BMI) trajectories have been estimated in various ways. These estimates are important to understand how BMI develops over time and for use in cost-effectiveness analysis. However, missing data is often stated as a limitation in studies that analyse BMI over time and there is little research into how missing data can influence these BMI trajectories. The aim of this study is to determine how much influence missing data can have when estimating BMI trajectories and to explore the effects this has on subsequent analysis.

Methods: This study uses data from the English Longitudinal Study of Aging. First, a growth mixture model is used to estimate distinct BMI trajectories in adults over the age of 50. Next, methods that assume data is missing at random (MAR) are used: complete case analysis and multiple imputation. Finally, Diggle Kenward and Roy methods that assume data is missing not at random (MNAR) are implemented. Estimated trajectories from each method are then used to predict the risk of developing type 2 diabetes (T2DM) using discrete-time survival analysis.

Results: Four distinct trajectories are identified using each of the methods to account for missing data: stable overweight, elevated BMI, increasing BMI, and decreasing BMI. However, the likelihoods of individuals following the different trajectories differs between the different methods.

Results show that the influence of BMI trajectory on T2DM is reduced after accounting for missing data. More work is needed to understand which methods for missing data are most appropriate and give the most reliable results.

Conclusions: Missing data can significantly influence estimations of BMI trajectories. When using BMI trajectories to inform cost-effectiveness analysis or policymaking, missing data should be considered. More research is needed to examine the extent to which accounting for missing data might influence the cost-effectiveness of policies, e.g. weight management interventions.

Key messages:

- Missing data is important when modelling BMI trajectories.
- More research is needed to examine the extent to which accounting for missing data might influence the cost-effectiveness of policies, e.g. weight management interventions.

Abstract citation ID: ckae144.1433
How to run a qualitative methods short course in epidemiology: faculty and student perspectives

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Background: Qualitative research and mixed methods are core competencies for epidemiologists. In response to the shortage of guidance on graduate course development, we wrote a course development to guide faculty and students designing similar courses in epidemiology curricula. We combine established educational theory with faculty and student experiences from a recent introductory course for epidemiology and biostatistics doctoral students at the University of Zurich and Swiss Federal Institute of Technology, Zurich.

Objectives: We propose a 1-ECTS, six session long, student-centred course with inverse in-person classroom teaching and practice exercises with faculty input. The overarching course objective is to introduce students to qualitative research and mixed methods. The proposed course covers learning outcomes in comprehension, knowledge, application, analysis, synthesis and evaluation.

Results: Following an introductory session, the students engage in face-to-face interviews, focus group interviews, observational methods, analysis and how qualitative and quantitative methods are integrated in mixed methods. Furthermore, the course covers interviewer safety, research ethics, quality in qualitative research and a practice session focused on the use of interview hardware, including video and audio recorders. The student-led teaching characteristic of the course allows for an immersive and reflective teaching-learning environment.

Conclusions: After implementation of the course and learning from faculty and student perspectives, we propose these additional foci: a student project to apply learned knowledge to a case study; integration in mixed-methods; and providing faculty a larger space to cover theory and field anecdotes. Based on: Gille, et al. A guide for a student-led doctoral-level qualitative methods short course in epidemiology: faculty and student perspectives, International Journal of Epidemiology, Volume 53, Issue 2, April 2024.

Key messages:

- Qualitative research methods and mixed methods are core competencies for epidemiologists.
- Students appreciate a student-centred course design with inverse classroom teaching and practice exercises.

Abstract citation ID: ckae144.1434

Occupational exposure to nickel or hexavalent chromium and the risk of lung cancer (SYNERGY)

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Background: Hexavalent chromium (Cr(VI)) and nickel (Ni) are known occupational carcinogens, with frequent exposures, for example, in welding-related activities. However, limited evidence exists on the exposure-response relationship of Cr(VI) or Ni with lung-cancer risk. We estimated lung-cancer risks based on quantitative indices of occupational exposure to each metal, and their interaction with smoking habits.

Methods: Fourteen case-control studies from Europe and Canada (16,901 cases, 20,965 control subjects) were pooled. A measurement-based job-exposure matrix was used to estimate year- and region-specific exposure levels for Cr(VI) and Ni, which were linked to the study subjects' occupational histories. Odds ratios (OR) and 95% confidence intervals (CI) were calculated, adjusting for study, age group, smoking, and exposure to other occupational lung carcinogens.

Results: The OR for the highest quartile (>99.5 µg/m3-years) of cumulative exposure to Cr(VI) in men was 1.32 (95% CI 1.19-1.47) and for nickel (highest quartile >78.1 µg/m3-years) OR = 1.29 (95% CI 1.15-1.45). Corresponding effect estimates in women were slightly lower. The joint effects of Cr(VI) and nickel with smoking were generally greater than additive.

Conclusions: We observed positive exposure-response relationships in the low-dose range of Cr(VI) and Ni exposures, based on a large study population including detailed information on smoking habits and a measurement-based job-exposure matrix. Although, we cannot rule out a combined classical measurement and Berkson error structure that may have caused bias in our risk estimates, our results provide empirical evidence to further specify preventive measures at the workplace in order to protect workers from hazardous substances.

Key messages:

- Relatively low cumulative levels of occupational exposure to Cr(VI) and Ni were associated with increased ORs for lung cancer, particularly in men.
- Important empirical insights for the prevention of cancer at the workplace can be drawn from the results.

Abstract citation ID: ckae144.1435

Association between body mass index and mental health status among community-dwelling older adults

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Background: Maintaining a better physical and mental health status is an important issue for older adults in their later life. Although obesity has been suggested to reduce the risk of mood disorders in older adults, the findings are controversial. Thus, we aimed to investigate the association between body mass index (BMI) and mental health status among older adults in Taipei City and to elucidate risk factors contributing to mood disorders.

Methods: The elderly health examination database was obtained from the Department of Health, Taipei City government, from 2005 to 2016. A total of 80,121 older adults underwent at least two publicly funded health examinations, with 398,416 visits. We used the Brief Symptom Rating Scale (BSRS-5) questionnaire to estimated relative risks among potential risk factors with the generalized estimating equations (GEE) model to measure the mental health status of older adults. Mood disorders were defined as a score of ≥ 6 on BSRS-5. BMI, age, education level, gender, living alone, income status, number of chronic diseases, smoking, drinking, and exercise were included as covariates.

Results: Older adults who are overweight or obese have a lower risk for mood disorders (adjusted odds ratio [OR] = 0.82; 95% confidence interval [CI] = 0.79 - 0.85), while those underweight have a higher risk (OR = 1.31; 95% CI = 1.21 - 1.41). Other results show that being male (OR = 0.66; 95% CI = 0.63 - 0.69), higher education (OR = 0.72; 95% CI = 0.69 - 0.75), and have exercise habits (OR = 0.73; 95% CI = 0.70 - 0.76) were all positively correlated with better emotional status. However, low income (OR = 1.24, 95% CI = 1.14 - 1.35) and having more chronic diseases (OR = 1.99, 95% CI = 1.87 - 2.11) were all correlated with poor mental status among older adults.

Conclusions: Keeping an appropriate weight or even being overweight might be beneficial for older adults. In addition, encouraging older adults to maintain exercise habits can also help improve mood disorders.

Key messages:

- Keeping an appropriate weight or even being overweight might be beneficial for older adults.
- Encouraging the elderly to maintain exercise habits can also help improve mood disorders.

Abstract citation ID: ckae144.1436
Neighbourhood immigrant density and COVID-19 infection and hospitalization among healthcare workers

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Background: Studies have shown inequalities in COVID-19 infection among healthcare workers (HCWs), with occupational exposure failing to fully explain the inequalities. Little is known about the role of other social determinants of health, such as neighborhood immigrant density. We examined if living in immigrant-dominated neighborhoods was associated with increased risk of COVID-19 infection and hospitalization among HCWs in Sweden, and if so, whether such exposure amplified the risk of COVID-19 among immigrant HCWs. Addressing this question would contribute to a better understanding of factors driving COVID-19 disparities among HCWs.

Methods: Data were from HCWs aged 20 to 62 years (N = 86187) resident in one of 14 Swedish municipalities (three of which are Sweden's largest metropolitan cities) on 1 January 2020. Residential neighborhoods were categorised into Swedish-dominated, mixed, and immigrant-dominated. The study outcomes were the first occurrence of COVID-19 infection and hospitalization registered until 30 September 2022. Multilevel mixed-effects survival regression was used for the association analyses, with control for confounders (age, sex, income, comorbidities etc).

Results: After adjusting for confounders, living in immigrant-dominated neighborhoods was only associated with an increased risk of COVID-19 infection in the first pandemic wave (HR 1.17, 95%CI 1.07 - 1.29), but living in these areas was associated with an elevated risk of COVID-19 hospitalization throughout the entire period. Immigrant HCWs, regardless of where they lived, had around 2-fold higher risk of being hospitalised for COVID-19 than non-immigrant HCWs living in Swedish-dominated neighborhoods.

Conclusions: Neighborhood immigrant density was associated with COVID-19 hospitalization among HCWs in Sweden. However, immigrant HCWs had a high risk of the outcome regardless of where they lived. More research is needed to identify the root causes of the excess risk among immigrant HCWs.

Key messages:

- HCWs living in immigrant-dominated neighborhoods had an elevated risk of COVID-19 hospitalization.
- This study sheds additional light on the drivers of COVID-19 inequalities among Swedish HCWs.

Abstract citation ID: ckae144.1437
The trends of arterial hypertension and ischemic heart disease in Lithuanian population (1983-2023)

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Background: During the past two decades, in Lithuania, the morbidity and mortality from circulatory system diseases such as ischemic heart disease (IHD) have been increasing. The increasing incidence of IHD can be linked to the IHD prevention program implemented in Lithuania, which was launched in 2005. This study aimed to determine and evaluate the prevalence of IHD, their risk factors, and trends among middle-aged (45-64 years) urban males and females in Lithuania over the last 40 years.

Methods: During our study, the changes in the prevalence of arterial hypertension (AH) and IHD, among Kaunas city inhabitants aged 45-64 years in six population-based cohorts (1982-1983 (n = 1660), 1986-1987 (n = 1152), 1992-1993 (n = 824), 2001-2002 (n = 978), 2006-2008 (n = 4604) and 2023 (n = 554)) were analyzed. AH was defined when the arterial blood pressure was ≥140/90 mmHg or a person had taken antihypertensive drugs during 2 weeks. IHD was defined when a person had a previous myocardial infarction (MI) and/or ischemic changes on electrocardiogram (ECG) were assessed by Minnesota codes. The prevalence of AH and IHD changes were evaluated using regression analysis.

Results: During 1983-2023, the prevalence of AH among males aged 45-64 significantly increased from 58.7% (1982-1983) to 72.7% (2023) (p = 0.04), but among females aged 45-64 the prevalence of AH tended to decrease from 63.0% (1982-1983) to 50.9% (2023) (p = 0.18). The prevalence of IHD among males aged 45-64 was without significant changes and was from 14.4% (1982-1983) to 13.6% (2023) (p = 0.7), but among females aged 45-64 the prevalence of IHD significantly decreased from 21.7% (1982-1983) to 16.6% (2023) (p = 0.04).

Conclusions: From 1983 to 2023, among Lithuanian middle-aged urban males, the prevalence of AH significantly increased, but the prevalence of IHD was stable, meanwhile, among Lithuanian middle-aged urban females the prevalence of AH tended to decrease, but the prevalence of IHD significantly decreased.

Key messages:

- From 1983 to 2023, among Lithuanian middle-aged urban males, the prevalence of AH significantly increased, meanwhile among females - tended to decrease.
- Over 40 years, the prevalence of IHD among Lithuanian males was without significant changes, but among females - significant decreased.

Abstract citation ID: ckae144.1438
Regional deprivation and suicide mortality in Germany

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Background: Regional deprivation has been shown to be an important determinant of suicide risk. However, little is known about regional differences in suicide mortality in Germany.

Methods: Data from cause of death statistics (2015 to 2021) were analyzed. Regression analysis for data with negative binomial distribution was used to examine the association between the German Index of Multiple Deprivation 2015, covering 401 districts and district-free cities in Germany, and suicide mortality.

Results: The adjusted rate ratio for suicide in the most deprived deprivation area compared to the least deprived area was 1.18 (95% CI [1.72, 2.00]). A sensitivity analysis shows similar rate ratios for men (1.99 (95% CI [1.80, 2.18])) and women (1.69 (95% CI [1.49, 1.92])), but a higher rate ratio for rural areas (2.29 (95% CI [2.04, 2.57])) compared with urban areas (1.51 (95% CI [1.36, 1.68])).

Conclusions: The findings suggest that regional deprivation is associated with suicide mortality, and call for a more targeted approach to suicide prevention in deprived regions.

Key messages:

- Study reveals higher suicide rates in deprived regions in Germany.
- Study calls for tailored prevention strategies to address this disparity.

Abstract citation ID: ckae144.1439
Deprivation and stroke incidence, treatment and mortality in Germany

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Background: Previous research suggests that regional deprivation significantly influences the risk of stroke. However, little is known about regional differences in stroke incidence and mortality within Germany.

Methods: We utilized data from the Diagnosis Related Groups statistics (2016-2019) and the German Federal Register of Physicians (2019). We used negative binomial regression analysis to investigate the relationship between the German Index of Multiple Deprivation 2015, covering 401 districts and district-free cities in Germany, and stroke incidence, treatment, and mortality.

Results: The adjusted rate ratios of stroke incidence and mortality with the highest deprivation level compared with the least deprived area were 1.16 (95% CI [1.14, 1.17]) and 1.19 (95% CI [1.14, 1.23]), respectively. Furthermore, this study showed that the density of physicians was higher in district-free cities than in districts.

Conclusions: The findings document a relationship between regional deprivation and stroke incidence and mortality, and call for a more targeted approach to stroke prevention in deprived regions.

Key messages:

- Regional deprivation in Germany linked to increased stroke incidence and mortality rates.
- Policy action needed for effective prevention measures.

Abstract citation ID: ckae144.1440
Income transfer and COVID-19 pandemic in Brazil: wrong and right at the same time

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To alleviate the effects of socioeconomic inequalities and of the fall in economic activity on vulnerable populations during the COVID-19 pandemic, many countries have implemented or expanded income distribution programs. Brazil, amid the political and economic 2020 crisis, exacerbated by the pandemic, established Emergency Aid (EA). This longitudinal ecological study aimed to analyze whether the availability of EA contributed to the reduction of morbidity and mortality due to COVID-19 in the Brazilian 5,570 municipalities, from March 2020 to December 2021. The theoretical model considered as control covariates socioeconomic, sociodemographic and morbidity characteristics and access to health services, including COVID-19 testing availability and vaccination. Classical variable selection methods were applied considering the theoretical model, culminating in the adjustment of Bayesian hierarchical models with the inclusion of spatial and temporal effects. First dose COVID-19 vaccine coverage and EA had a protective effect against hospitalization (RR = 0.982 and RR = 0.986) and mortality (RR = 0.978 and RR = 0.976) due to COVID-19 in Brazil, when controlled by socioeconomic variables, access to health services and spatial-temporal effects. The results highlight the important role of income transfer in morbidity and mortality due to the disease, however, the way in which EA was implemented in Brazil presented a series of problems, the main ones being discontinued payment of aid, reduction in values throughout the duration of the benefit, in addition to the use of public resources to pay people who did not meet the eligibility criteria. Such problems might not have happened if the federal government had maintained the registration structure of Bolsa Familia Program (BFP), which did not happen. Furthermore, vaccination was started late for several reasons, that is, its role in reducing morbidity and mortality could have been even greater if started as soon as it become available.

Key messages:

- Even with planning and execution problems, income transfer and specific vaccination were important in reducing COVID-19 morbidity and mortality in Brazil during the COVID-19 pandemic.
- Income transfer during the COVID-19 pandemic in Brazil was not done in the best way possible, due to discontinued payment, reduction in values and payment to not eligible people.

Abstract citation ID: ckae144.1441
Measured obesity and overweight in adults: the Italian Health Examination Survey 2023-CUORE Project

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Background: The WHO recommends to halt the rise of obesity by 2025, considering 2010 as baseline. This analysis aims to assess if Italy can meet the WHO target in the general adult population using data measured in the periodic health examination surveys (HESs) conducted within the CUORE Project.

Methods: In the HES started in 2023, mean level of BMI and prevalence of obesity (BMI > =30 kg/m2) and overweight (25 < =BMI< 30 kg/m2) were assessed in representative random samples of resident population, aged 35-74 years, stratified by age and sex (727 men and 706 women), from 7 (of 20) Italian Regions, in Northern, Central and Southern Italy. Weight and height were measured using standardized methods. Insufficient physical activity was defined as less than 150 minutes of moderate-intensity activity per week, or equivalent. The survey is funded by the Italian Ministry of Health-CCM.

Results: Prevalence of obesity was 23% (95% C.I. 16-29%) in men and 25% (19-31%) in women; prevalence of overweight was 47% (39-54%) in men and 30% (24-37%) in women. Mean level of BMI was 27.5 kg/m2 (27.2-27.8 kg/m2) in men and 26.9 kg/m2 (26.4-27.3 kg/m2) in women. Obesity resulted tendencially higher in persons with insufficient physical activity (27%, with 95% C.I. 17-36% in men; 28%, 19-37% in women) than among those without (19%, 11-27% in men; 21%, 12-30% in women), and in persons with primary or secondary school education (29%, 17-40% in men; 32%, 20-44% in women) than in those with higher educational level (20%, 12-27% in men; 21%, 14-28% in women).

Conclusions: Going in the direction of WHO target, preliminary data collected within 2023 showed a prevalence of obesity not statistically different in comparison to HES data of 15 and 5 years ago, both in men and women, however, 70% of men and 55% of women are in the overweight/obesity condition. Preventive actions at national and community level should be still massively implemented.

Key messages:

- Prevalence of obesity and overweight resulted still at epidemic level in the Italian adult general population.
- In the Italian adult population stable obesity prevalence trend was observed in comparison to 15 and 5 years ago.

Abstract citation ID: ckae144.1442
Long-term cardiovascular events in individuals hospitalised with COVID-19: a retrospective cohort

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Background: The post-COVID condition involves a range of persistent or new symptoms affecting various organs, including an increased risk of cardiovascular issues. As there are limited data on cardiovascular events in post-acute COVID-19 patients, we aimed to estimate their incidence and assess its association with patient and infection characteristics in Portugal.

Methods: We conducted a registry-based retrospective cohort study from seven hospitals across Portugal, including individuals hospitalised due to COVID-19 between March 2020 and March 2021. Our outcome of interest was cardiovascular events in the post-acute phase of COVID-19, occurring at least 30 days after the positive SARS-CoV-2 test. The variables of interest considered were the severity of the episode, existing cardiovascular risk and vaccination status before the SARS-CoV-2 test. Person-years and incidence rates were estimated. A Cox proportional hazard regression model was employed to assess risk factors.

Results: We included 1,803 patients in the analysis, of which 143 (7.9%) experienced at least one cardiovascular event following COVID-19 hospitalisation. The overall incidence rate of having at least one cardiovascular event was 34.65 per 1,000 person-years (95% confidence interval (CI): 29.20; 40.82). We found a higher risk of cardiovascular events for individuals with pre-existing cardiovascular risk (adjusted hazard ratio (aHR): 3.76, 95% CI: 1.53; 9.24) and lower risk for individuals with at least one vaccine dose before the SARS-CoV-2 test (partial - aHR: 0.44, 95%CI: 0.30; 0.64, complete - aHR: 0.46, 95%CI: 0.2; 0.80). We did not find a significant difference between the severity of the COVID-19 episode and the risk of having cardiovascular events post-COVID-19.

Conclusions: Our results indicate the presence of cardiovascular complications post-COVID-19, emphasising the need for healthcare systems to initiate screening and preventive strategies for individuals deemed at elevated risk.

Key messages:

- COVID-19 vaccination decreases the risk of cardiovascular events post-COVID-19.
- Healthcare systems should start screening and preventive strategies for individuals with pre-existing risk of cardiovascular events.

Abstract citation ID: ckae144.1443
Integrated sentinel surveillance of influenza, SARS-CoV-2, RSV and respiratory viruses in Serbia

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Introduction: Integrated sentinel SARI surveillance of influenza, SARS -CoV-2 and RSV has been established in Serbia since 2021-2022 influenza season. Nine sentinel hospitals in 3 cities participated in the SARI surveillance system. The aim of this study is to provide a review of integrated sentinel surveillance of SARI in Serbia in 2023-2024 influenza season, from October 2023 to April 2024.

Methods: On a weekly basis, both epidemiological and virological data were collected. Surveillance is be conducted year-round. Specimens were tested for influenza, SARS-CoV-2,RSV and other respiratory viruses. Respiratory disease wards, intensive care units (ICUs) and pediatric wards were all represented. Real time polymerase chain reaction (RT-PCR) was used.

Results: From October 2023 to April 2024, a total of 1571 SARI cases were reported with 100% recorded age. Of these, 35% were 0-4 years old, 16% were 5-14, 6% were 15-29, 14% were 30-64, 18% were 65-79 and 11% were 80+. Among these cases, 1002 (64%) respiratory specimens were collected. The number of positive samples for influenza was 294 (29%). The positivity rate was 10% for SARS-CoV-2 and 19 % for RSV. The highest proportion of laboratory-confirmed influenza cases was 67% in week 04/2023. Then above 50% in week 05/2023 and 06/2023. Type A viruses was predominated, accounting for 97% of all influenza SARI detections. Activity was dominated by A(H3) with 42% positivity rate. Also, collected swabs were tested for rhinoviruses, positivity rate was 26%, for adenoviruses, 12%, for human metapneumovirus, 7% and for parainfluenza 3 viruses, 4%.

Conclusions: Sustaining and intensified effective integrated surveillance for influenza, SARS-CoV-2,RSV and other respiratory viruses in Serbia is the priority especially in the frame of International Health Regulations. In this way, we improve national capacity for preparedness and emergency response to national and cross-border public health threats.

Key messages:

- Building and maintaining integrated respiratory surveillance that can rapidly integrate the surveillance of a new viruses is crucial.
- Establishing well structured surveillance of severe acute respiratory infections, strengthening and expanding respiratory viral surveillance is one the base pillars preparation for future pandemics.

Abstract citation ID: ckae144.1444
Do poor psychosocial resources mediate health inequalities in type 2 diabetes? The Maastricht Study

Bengisu Sezer

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Low socioeconomic position (SEP) has been identified as a risk factor for type 2 diabetes mellitus (T2DM). A potential pathway of this association is psychosocial resources. Disadvantageous environmental conditions result in low control beliefs through adverse resources and inferiority beliefs through social comparison for people with a low SEP. We examined two poor psychosocial resources, low control beliefs and inferiority beliefs, to explain socioeconomic inequalities in T2DM. We analysed mediating roles of low control beliefs and inferiority beliefs by using counterfactual mediation analysis. 8293 participants aged 40-75 living in Limburg, the Netherlands participated in The Maastricht Study starting from September 2010 to October 2020 and were followed up to 10 years with annual questionnaires with a median follow-up time of 7.18 years. SEP (education, income, occupation), control and inferiority beliefs, and (pre)diabetes by oral glucose tolerance test were measured at baseline. Incident T2DM was self-reported per annum. 3.2% (N = 203) of the participants without T2DM at baseline reported incident T2DM. People with low SEP had more often prevalent and incident T2DM (e.g., low education:HR=2.13, 95%CI:1.53-2.97). Lower control beliefs and higher inferiority beliefs were more common among people with low SEP than people with high SEP. Moreover, lower control beliefs and higher inferiority beliefs were risk factors for T2DM (e.g., low control beliefs: HR = 1.50, 95%CI:1.08-2.09). The relationship between SEP and T2DM was partially mediated by control beliefs (7.98-13.56%) and inferiority beliefs (2.16-4.53%). Poor psychosocial resources are important in socioeconomic inequalities in diabetes. Researchers and practitioners should consider the psychosocial profile of people with lower SEP might differ from those with higher SEP and this might interfere with the development, treatment, and prevention of T2DM. We should aim to work with such beliefs, instead of against it.

Key messages:

- Socioeconomic health inequalities in diabetes has many underlying mechanism including psychosocial pathways.
- Interventions and research should consider the different environment of low SEP and psychosocial profiles of people. We should aim to work with it, instead of against it.

Abstract citation ID: ckae144.1445
Did the COVID-19 Pandemic Affect Suicide Rates Differently in Urban and Rural South Korea?

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Background: The influence of the COVID-19 pandemic on suicide rates remains a subject of debate. Despite increases in suicidal ideation and attempts reported during the pandemic, several recent meta-analyses have not demonstrated corresponding rises in suicide rates. Given the potential for substantial regional and demographic variability in the psychological consequences of COVID-19-related restrictions, this study explores differential suicide rates in urban versus rural contexts within South Korea subsequent to the pandemic outbreak.

Methods: This investigation employed age-standardized suicide rates from two periods, 2015-2019 and 2020-2022, across 234 administrative divisions (152 urban, 82 rural). A difference-in-differences approach was utilized to evaluate the pandemic's impact on suicide rates, segmented by urban and rural classifications. A linear regression model was developed to examine the interaction between location (urban/rural) and time period, controlled for annual variations, perceived stress, and health status within each locale.

Results: Analysis revealed higher suicide rates in rural areas compared to urban counterparts ($\beta = 1.247$, $p = 0.003$), although no significant changes were observed during the pandemic period itself (β=-0.425, $p = 0.682$). Furthermore, the interaction between urban/rural status and the pandemic period did not reach statistical significance ($p = 0.367$).

Conclusions: The findings indicate no significant contribution of the COVID-19 pandemic to increased suicide rates, irrespective of the urban or rural setting. Further research is warranted to dissect the impact of more direct socioeconomic factors on this dynamic.

Key messages:

- There in no evidence of increased suicide rates during the COVID-19 pandemic in South Korea.
- The impact of the COVID-19 pandemic on suicide rates did not significantly different between urban and rural areas.

Abstract citation ID: ckae144.1446
Sexual harassment among higher education students: a worldwide review

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Introduction: Sexual harassment is an uprising problem in higher education systems worldwide with major impacts on students. The aim of this study was to describe and meta-analyze quantitative data on sexual harassment prevalence among higher education students.

Methods: We searched in seven databases and included studies published in English and French from 2000 until 2023 if they measured sexual harassment prevalence on students attending higher education, and they were quantitative cross-sectional studies. Prevalence estimates disaggregated by gender identity, and world region were meta-analyzed using a random-effects model and reported following PRISMA guidance.

Results: We identified 53 articles, from 6 different regions of the world, with highly variable sample sizes, ranging from 164 to 779,170. 45% of the samples were from the United States. 32% of studies used convenience or purposive sampling and 39% random sampling. The meta-analyzed prevalence of sexual harassment was globally 36.9% (95% CI [30.6, 43.6], 43.7% for women, 16.8% for men, 33.4% for non-binary. In additional, variations in prevalence were observed across the different world regions. In particular, the Eastern Mediterranean region presented the highest prevalence estimates for sexual harassment among women, reaching 67.5%, while the Americas region presented the highest prevalence estimates for sexual harassment among men, at 18.8%.

Discussions: Higher education institutions, especially in low- and middle-income countries, should commit to the conduct of surveys to monitor the prevalence of sexual harassment, and policymakers should allocate specific funds and resources to support the implementation of sexual harassment prevention and intervention initiatives in higher education, prioritizing the safety and well-being of students.

Key messages:

- High prevalence of sexual harassment in higher education underscores urgent need for proactive measures to ensure student safety and well-being.
- Policymakers should allocate specific funds and resources to support the implementation of SH prevention and intervention initiatives in higher education.

Abstract citation ID: ckae144.1447
2008 economic crisis impact on perinatal and infant mortality in Southern European countries

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Introduction: The study of crisis events provides important lessons to prepare for upcoming events. The Great Recession's impact on perinatal health in Europe can provide relevant insights into the healthcare and social protection systems' response to protecting the health of the most vulnerable groups.

Objectives: To assess time trends and international disparities in perinatal mortality rates (PMR) and infant mortality rates (IMR), following the Great Recession, and their association with socioeconomic indicators in Portugal, Greece, Italy and Spain.

Methods: Associations were assessed through generalised linear models for all four countries. A Poisson joinpoint regression model was applied to explore PMR and IMR trend changes between 2000 and 2018. Country disparities were analysed using mixed-effects multilevel models.

Results: IMR and PMR have decreased overall in the four selected countries between 2000 and 2018. Still, whereas in Spain, Italy and Portugal the decreasing pace was attenuated after 2009, in Greece a positive trend was found after the 2008 crisis. IMR and PMR were significantly associated with socioeconomic indicators in all four countries. National disparities in the evolution of IMR and PMR were significantly associated with most socioeconomic indicators between 2000 and 2018.

Conclusions: Our results confirm the impact of the Great Recession on PMR and IMR trends in all four countries, taking recurring associations between macroeconomic cycles, variations in mortality trends, macroeconomic volatility and stagnation of IMR and PMR into account. The association with socioeconomic indicators stresses the need to strengthen social protection and healthcare systems to better protect the population's health from the earliest days.

Key messages:

- Mortality patterns refer to the internal variability of the crisis' effect and to persistent spatial regional inequalities appealing to the need for attention in policymaking.
- The relevance of considering the political economy of global health finance and macroeconomic volatility as a major influence on the association of mortality rates with socioeconomic indicators.

Abstract citation ID: ckae144.1448
Gender Differences in Years of Life Lost resulting from the 2015 Gorkha Earthquake in Nepal

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Background: Nepal has a history of regular natural hazards, including significant earthquakes and floods. Previous studies have shown that females, particularly younger females, are more likely to die due to disasters compared to males. This study aimed to explore gender differences in mortality - measured in Years of Life Lost (YLL) - caused by the 2015 Gorkha earthquake across 41 districts of Nepal.

Methods: Mortality counts were derived from the Nepal Police Report. YLL was estimated by multiplying mortality counts (stratified by age, gender, and district) by age-conditional life expectancy from the 2019 Global Burden of Disease reference life table. Both absolute numbers and rates of YLL per 100,000 population were calculated. YLL per deaths, stratified by age-gender-and-location, were estimated and compared. Male-to-female YLL rate ratios were estimated as well, and compared across districts.

Results: The 2015 Gorkha earthquake resulted in 8,950 deaths (females: 56.1% versus males: 43.9%), accounting for 526,617 YLL. Males had a slightly higher number of YLL per death (59.2) compared to females (58.5); this is mainly due to the different number of deaths between males and females. YLL per deaths ranged from 65.4 (Rautahat district) to 0 (in several districts) among males and, from 65.3 (Rautahat district) to 0 (in several districts) among females. The YLL rate per 100,000 population was higher for females (3,158 per 100,000) than for males (2,575 per 100,000). Approximately 40% of the districts had male-to-female YLL rate ratios of less than one, which can be partly explained by the gender distribution of the population at rik of dying due to earthquake.

Conclusions: The study found relatively higher YLL per death for males and higher YLL rates for females. This underscores the necessity to further investigate the factors that contribute to fatalities from earthquakes, especially in lower middle income countries such as Nepal.

Key messages:

- Gender disparities in mortality following the 2015 Gorkha earthquake in Nepal were addressed using Years of Life Lost (YLLs); males had higher YLL per death, while females had higher YLL rates.
- Exploring the factors that contribute to earthquake-related fatalities should be a priority for disaster mitigation strategies.

Abstract citation ID: ckae144.1449
Using Social Network Analysis during COVID-19 contact tracing in Libya, 2020

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Background: Social network analysis (SNA) may provide valuable insights into individual-level transmission dynamics, allowing for targeted contact tracing interventions. We used SNA to understand the variability in SARS-CoV-2 transmission at the case level during the first wave in Libya.

Methods: We analyzed the spread of COVID-19 in Libya from March to August 2020 using contact tracing data from 287 confirmed cases. We created a network to visualize the transmission patterns, representing each case as a node and connections as links. We focused on direct contacts identified through contact tracing and calculated network measures such as out-degree centrality, in-degree centrality, and betweenness centrality. Gephi software was used for data visualization and understanding the network structure.

Results: Of the 287 COVID-19 cases, 264 (92%) had nodes with zero outdegrees, indicating that they did not contribute to infection transmission. The remaining 23 (8%) had non-zero out-degree measures and transmitter infection to other cases, 10 (4%) of whom were super-spreaders (outdegree$\geq$5) causing 70% of the transmission. Six (2%) had no epidemiological contact, indicated by zero in-degree centrality measures; 63% had zero betweenness centrality measures, suggesting they did not act as intermediaries connecting separate transmission chains within the network. The network contained nine clusters of connected nodes, with the largest having 91 (24%) cases; the mean path length between cases was 1.846, and the network diameter was 4.

Conclusions: The study revealed distinct clusters of connected cases, along with the presence of super-spreaders. This network structure underscores the critical role of early identification and isolation of individuals with high transmission potential to effectively contain outbreaks. This revised conclusion directly references the findings of nine clusters and super-spreaders, demonstrating how these results support the importance of early intervention.

Key messages:

- Social network analysis identifies clusters and super-spreaders in COVID-19 transmission, emphasizing the need for targeted interventions.
- Connected clusters and super-spreaders highlight the importance of contact tracing and early isolation for effective control of COVID-19 outbreaks.

Abstract citation ID: ckae144.1450
Lifestyle factors before and after colorectal cancer treatment and their association with fatigue

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Background: As colorectal cancer (CRC) survivorship increases, so does the challenge of managing cancer-related fatigue, a prevalent condition that severely impacts survivors' ability to work and overall quality of life. This study delves into the relationship between lifestyle behaviors, assessed using the HEALTHY lifestyle score, and its influence on fatigue among CRC patients.

Methods: Data was derived from MIRANDA, a multicenter cohort study that enrolls adult CRC patients during a 3-week in-patient rehab within a year after primary CRC treatment. Up to date, n = 438 participants provided information on lifestyle factors at the rehabilitation start (baseline) and then every three months for the first year. The predictors were the HEALTHY lifestyle score and its components (diet, alcohol consumption, physical activity, BMI, and smoking status) calculated at three time points: before surgery, after surgery, and 12 months following rehabilitation. The outcome was fatigue, assessed using the Functional Assessment of Chronic Illness Therapy - Fatigue (FACIT-F-FS) scale.

Results: Participants with a higher HEALTHY lifestyle score after CRC surgery had statistically significantly lower fatigue levels. The components that contributed most to this finding were smoking and physical activity. Participants who engaged in exercise post-surgery or did not smoke before their cancer diagnosis experienced lower fatigue levels during rehabilitation.

Conclusions: Lifestyle modifications, such as increasing physical activity and smoking cessation, are crucial in preventing or reducing fatigue among CRC patients. Tailored public health initiatives that advocate for these lifestyle adjustments and their incorporation into CRC rehabilitation protocols could significantly advance survivor care, ultimately leading to better health outcomes.

Key messages:

- The HEALTHY score is associated with fatigue of CRC patients during rehabilitation, highlighting the crucial role of lifestyle changes after CRC treatment.
- Smoking cessation and physical activity programs may be the most effective measures for decreasing the fatigue burden of these patients.

Abstract citation ID: ckae144.1451
Defining neighborhood walkability for children in the ELFE cohort study

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Background: Although walkability is known to be associated with obesity in adults, there is a paucity of data evaluating the association of walkability and health outcomes in children. In particular, little is known regarding the possible association with children's mental health.

Methods: We used data from the Etude Longitudinale Française depuis l'Enfance (ELFE) cohort study. Participating mothers gave birth in 2011 in a representative sample of 320 maternity hospitals in mainland France. This pilot study is limited to participants in Paris and children at 5.5 years old. Walkability is defined by three parameters: population density (defined by census data), street connectivity (defined by intersection density), and land-use mix (entropy index). To approximate walkable areas, 500-meter street-network buffer zones were created around each participants address using a geographic information system. Children's mental health was assessed using parent-reported Strengths and Difficulties Questionnaire at age 5.5 years.

Results: There was a total of 280 children in this pilot study. On measures of land-use mix, we found a mean of 0.79 (SD: 0.12), representing high accessibility. Residential and intersection density were highly correlated ($p < 0.01$). The walkability index demonstrated high variability among participants (mean: 10.6; SD: 10.44; range: -1.67 - 30.59).

Conclusions: Developing a walkability index is a multifactorial measure to describe a children's neighborhood environment. Future work includes determining the association with children's mental health disorders, while accounting for individual and neighborhood variables. This ecological model can inform social epidemiology and contextual disparities in children's health.

Key messages:

- Little is known about neighborhood walkability and the association with children's mental health.
- Using objective measures to calculate neighborhood composition and help elucidate this relationship.

Abstract citation ID: ckae144.1452
Leishmaniasis in Tuscany: investigation of hidden human cases and comparison with canine incidence

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The Mediterranean basin hosts endemic areas for leishmaniasis, mainly attributable to the presence of sand flies. Leishmaniasis has gained importance in Europe due to climate change, globalisation and migration. For at least the last 10 years in Tuscany, Italy, there has been an important discrepancy between official notifications of visceral and cutaneous leishmaniasis cases in humans and the number of hospital admissions, highlighting an important underestimation, despite mandatory notification. Moreover, official reports have increased alarmingly in the last three years. Human leishmaniasis does not always require hospitalisation: it often presents cutaneous manifestations, whereas in the immunocompetent individual it may not occur at all. For this reason, it is reasonable to assume that the number of cases is higher than the number of hospitalisations. The project aims to investigate the underreporting of human leishmaniasis cases from 2014 to 2023 by analysing laboratory diagnoses (considering any laboratory test that, according to the Italian Ministry of Health guidelines, is useful to identify a 'confirmed case', thus serological tests; parasitological tests; culture tests; PCR). To estimate the extent of underreporting, the capture-recapture method will be used, taking into account laboratory data, official reports and hospital data. Subsequently, a comparison will be made with the incidence, in the same territory, of veterinary cases, particularly in dogs, using data obtained from the Lazio-Tuscany Zooprophylactic Institute, to compare the trend of human and canine cases over time. Analyses are in progress and the results will be presented at the conference. Poor surveillance leads to ineffective prevention policies. The impact of the project is to strengthen the leishmaniasis surveillance system in Tuscany in order to reinforce prevention systems and face emergencies.

Key messages:

- Due to climate change, globalization, and migration, there has been an increase in diagnoses of vector-borne diseases, including Leishmaniasis.
- Leishmaniasis surveillance need to be strengthened in order to enhance prevention systems and address emergencies.

Abstract citation ID: ckae144.1453
Mediterranean diet score linked to cognitive functioning in women: evidence from the Czech Republic

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Background: Evidence suggests that adherence to the Mediterranean diet (MED) may be beneficial in preventing cognitive decline, although findings are inconsistent. We aimed to explore this association in the Czech population of older adults.

Methods: A total of 6,028 males and females from the Czech arm of the Health Alcohol and Psychosocial factors in Eastern Europe (HAPIEE) study were included in the analysis. Dietary data were collected using a food frequency questionnaire, and MED was calculated based on nine food groups. The MED score ranged from 0 to 16 points and was categorized into three groups: 0-7, 8-10, and 11-16 points. Cognitive function was measured using four tests assessing verbal memory and learning, verbal fluency, and attention, mental speed and concentration, from which single z-scores were computed. The composite score of cognitive function was computed as the mean of z-scores. The cross-sectional associations between MED and composite score of cognitive function were analyzed using multivariate linear regression.

Results: Females with a dietary score of 8-10 points (Beta=0.05, 95% CI: -0.002; 0.097), and those with a score of 11-16 points (Beta=0.08, 95% CI: 0.016; 0.140) had a higher composite cognitive score than women in lowest adherence group. Looking at specific domains, women in the highest adherence group had significantly better immediate verbal memory (Beta=0.12, 95% CI: 0.031; 0.205) and delayed recall (Beta=0.12, 95% CI: 0.027; 0.212), respectively, than those in the lowest adherence group. There were no associations in males.

Conclusions: Higher adherence to the MED was associated with better cognitive functioning in verbal memory and composite cognitive score in Czech females. The results suggest that the Mediterranean diet may help to improve cognitive functioning in older women. #NGEU

Key messages:

- Findings suggest that Mediterranean diet may be beneficial in cognitive functioning in older women.
- Higher adherence to the Mediterranean diet is connected to better cognitive function particularly in verbal memory domain.

Abstract citation ID: ckae144.1454
Metabolically healthy obesity and cardiovascular outcomes

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Obesity increases cardiovascular risk through a deterioration of the metabolic profile. However, obesity is not always accompanied by a worsening metabolic profile. This longitudinal study aimed to determine whether obesity with a normal metabolic profile, i.e. metabolically healthy obesity, increases the risk of cardiovascular disease. We analyzed a health insurance data of Shizuoka prefecture resident. This data includes data from annual health check-ups performed for insured persons. This study analyzed data from 168,699 individuals aged <65 years. Obesity was defined as ≥ 25 kg/m2 body mass index. Metabolically healthy was defined as ≤ 1 metabolic risk factors (high blood pressure, low high-density lipoprotein cholesterol, high low-density lipoprotein cholesterol, or high hemoglobin A1c). Incidence rate of cardiovascular diseases (stroke and myocardial infarction), and all-cause mortality identified from the insurance data were compared between clinical profile-matched metabolically healthy obesity and non-obesity groups ($n = 8,644$ each). Clinical parameters, namely systolic blood pressure (standard mean difference = 0.03), HDL cholesterol (0.01), LDL cholesterol (0.01), and hemoglobin A1c (0.01) did not differ among the metabolically healthy obesity and non-obesity groups. The incident rate of stroke (obesity: 9.2 per 10,000 person-years; non-obesity: 10.5; log-rank test P = 0.595), myocardial infarction (obesity: 3.7; non-obesity: 3.1; P = 0.613), and all-cause mortality (obesity: 26.6; nonobesity: 23.2; P = 0.304) also did not differ significantly among the groups even when abdominal obesity was considered in the analysis, though the population with metabolically healthy obesity reported negligibly worse metabolic profiles than the population with nonobese at the 5.6-year follow-up. Obesity, when accompanied by a healthy metabolic profile, did not increase the risk of cardiovascular outcomes and all-cause mortality.

Key messages:

- Metabolically healthy obesity did not increase cardiovascular disease risks.
- Metabolically healthy obesity was associated with worse metabolic profiles after a few years later.

Abstract citation ID: ckae144.1455
Asbestos is still paid for dearly

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Background: In Italy, asbestos is a current and important problem in terms of health effects due to the long latency of diseases related to its exposure. The aim of the study is to analyze the case history of malignant pleural mesothelioma (MPM) in the University Hospital of Siena in the period 2019-2023, comparing the type of exposure (occupational/non-occupational), the mean conventional latencies (MCL) of diagnosis, the histotype and the most exposed categories.

Methods: The study was conducted from January to April 2024, on 69 patients (79.7% male and 20.3% female) with a diagnosis of pleural mesothelioma between 2019 and 2023. 48 patients lived in Tuscany and 21 outside the region. The data were collected by consulting the medical surveillance records and radiological images through the VuePacs platform, then organized in a filtered database.

Results: Of 69 patients, exposure was occupational in 54 cases and non-occupational in the remaining 15. In patients with occupational exposure, the MCL was 55.9 years and the mean age at diagnosis was 73.66 years; in the other group, the MCL was 47.3 years and the mean age at diagnosis was 66.8. The study revealed the prevalence of epithelioid histotype in 76.81% of cases, biphasic in 15.94% of cases and sarcomatoid in 7.25%. The most at-risk categories were: metalworking (10 cases), construction (8), electricity/gas production (6) and shipyards (4). The study also identified two cases of atypical occupational exposure.

Conclusions: The shorter average latency in cases with non-occupational exposure is in accordance with the current scientific literature, as well as the prevalence of epithelioid histotype. Are hereby confirmed the primary role of health surveillance in the in-depth investigation of occupational anamnesis and of the environmental sites' survey as prevention tool, especially in those cases of MPM whose evaluation, deviating from the exposure standards, could lead to the assignment of a misdiagnosed exposure.

Key messages:

- The effects of asbestos exposure are a current and important problem in our country, even after its disposal, due to the long latency of disease onset.
- In-Department investigation of occupational anamnesis and survey of environmental sites as prevention tool play an essential role in MPM evaluation, especially in those cases of atypical exposure.

Abstract citation ID: ckae144.1456
Past-year mental health issues: discrepant survey & administrative data

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Introduction: Accurately measuring mental health disorder prevalence is crucial for public health planning. Administrative and survey data are common methods, but often yield differing results. This study compares case identification of mental health issues across these data sources in Slovenia.

Methods: We linked the 2019 European Health Interview Survey (EHIS) with three Slovenian health administrative databases: the National Hospital Health Care Statistics Database, Outpatient Prescription Drugs Database, and Absence From Work Database. Case identification utilized self-report of any mental health issue in the past 12 months and healthcare utilization records in 12 months preceding participation in EHIS. Multinomial logistic regression was used to examine the association between socio-demographic factors and case identification across data sources.

Results: Significant differences were found in 12 month prevalence of any mental health issue estimates between data sources. Only 45.9% of self-reported cases were identified in administrative data, and 36.6% of administrative cases self-reported mental health issues (Kappa = 0.302). Socio-demographics, including age, gender, education, and employment status, were significantly associated with the likelihood of identification in specific data sources.

Discussion: Our findings underscore the importance of data source and assessment tool selection on mental health prevalence estimates. Variations in identification across population subgroups could reflect differences in healthcare access and self-disclosure biases. Linking data sources and considering their inherent limitations is crucial for accurate burden estimation.

Key messages:

- Data source and assessment methods significantly impact how we identify individuals with mental health issues in the past year.
- Combining data sources and understanding their limitations is essential for improving mental health burden estimation.

Abstract citation ID: ckae144.1457
Breast implant illness in women with implant-based reconstruction after breast cancer

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Background: This study investigated the association between silicone breast implants and health symptoms (Breast Implant Illness (BII)) in women with implant-based breast reconstruction after breast cancer. While there is increasing evidence of an association with BII in cosmetic breast augmentation cases, for women with implant-based breast reconstruction this is unknown.

Methods: Retrospective cohort study of 254 women who underwent implant-based reconstruction after breast cancer and a control group of 487 women who underwent breast-conserving therapy or simple mastectomy. We linked Dutch Breast Implant Registry data (2015-2019) and general practice electronic health records data (2014-2022) to study the occurrence of thirteen BII-related health symptoms in general practice and the number of consultations for these symptoms one year before to three years after breast surgery.

Results: Over the three years following implantation, no significant differences in symptom occurrence were observed compared to both the year before implantation and the control group. Women with breast implants did not have more consultations compared to the control group during follow-up. However, there was an increased likelihood of multiple consultations in the first and second years post-implantation compared to before implantation ($\geq$3 consultations first year OR = 2.10, p = 0.005; second year OR = 1.70, p = 0.048; $\geq$5 consultations first year OR = 2.57, p = 0.02).

Conclusions: This study found no evidence for BII in women with implant-based reconstruction after breast cancer. Despite certain limitations in examining BII in this specific patient group, these findings add valuable information to the decision-making process of breast cancer patients considering reconstructive options.

Key messages:

- This is the first study on BII that focused solely on women with breast implants for reconstruction after breast cancer.
- No evidence of BII was found in this patient group.

Abstract citation ID: ckae144.1458

Educational inequalities in cervical cancer mortality in the Baltic Sea region in 2008–2015

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Background: Reducing inequalities in cervical cancer mortality is a public health priority. This study aims to assess the absolute and relative educational inequalities in cervical cancer mortality in the Baltic countries and Finland in 2008-2015.

Methods: Data for Estonia, Latvia and Lithuania were obtained from longitudinal mortality follow-up studies of population censuses in 2000/2001 and 2011, and data for Finland from the longitudinal register-based population data file of Statistics Finland. Cervical cancer deaths (ICD-10 code C53) were linked from national mortality registries. Educational level was census- or registry-based. Absolute and relative educational inequalities in cervical cancer mortality were assessed in 2008-2015 for women aged 30-49 and 50-64, using age-standardized mortality rates (ASMRs) per 100 000 person-years and mortality rate ratios (RRs) with 95% confidence interval (CI).

Results: This study included 1724 cervical cancer deaths and about 22 million person-years. Absolute and relative educational inequalities in cervical cancer mortality were considerably larger in the Baltic countries compared to Finland. Among 30-49-year-olds, ASMRs for high educated ranged from 0.6 (95% CI: 0.4-1.0) in Finland to 3.6 (95% CI: 2.5-5.0) in Lithuania, and for low educated from 2.2 (95% CI: 1.2-3.7) in Finland to 24.6 (95% CI: 18.2-32.4) in Lithuania. RRs for low educated compared to high educated ranged from 3.51 (95% CI: 1.57-7.68) in Finland to 9.11 (95% CI: 4.28-19.32) in Estonia. Among 50-64-year-olds, ASMRs for high educated ranged from 1.3 (95% CI: 0.8-2.0) in Finland to 9.8 (95% CI: 7.2-13.1) in Estonia and for low educated from 2.9 (95% CI: 1.9-4.1) in Finland to 43.9 (95% CI: 34.4-55.1) in Lithuania. RRs for low educated compared to high educated ranged from 2.18 (95% CI: 1.20-4.05) in Finland to 6.32 (95% CI: 4.30-9.36) in Lithuania.

Conclusions: Equitable prevention is a key to reducing cervical cancer mortality in the Baltic countries.

Key messages:

- Lower-educated women largely drive high cervical cancer mortality in the Baltic countries.
- Equity-focused prevention is crucial for reducing cervical cancer mortality in the Baltic countries.

Abstract citation ID: ckae144.1459

Unequal effects of adolescent health behaviors on adult cardiometabolic conditions: a cohort study

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Background: Health behaviors in adolescence could have a life-long effect on cardiometabolic health and differ by parental socioeconomic conditions. Adopting a life course perspective and a causal inference framework, we aimed to quantify the differential effect of adolescent unhealthy behaviors on adult cardiometabolic conditions by parental financial situation.

Methods: Using the National Longitudinal Study of Adolescent to Adult Health in the United States (n = 3,772), we estimated conditional causal effect by parental financial situation through inverse probability-weighted marginal structural models. Exposures were adolescent health behaviors (dietary habits, cigarette smoking, alcohol consumption and physical activity) and the effect modifier was parental financial situation (difficulty paying bills vs. no difficulty), both measured at ages 12-19 (1994-1995). Outcomes were cardiometabolic conditions (hypertension, stroke, cardiac failure, diabetes, chronic kidney disease), measured at ages 33 - 43 (2016-2018) using biomarkers and self-reports.

Results: There were 1,206 participants with cardiometabolic conditions after 20 years of follow-up. Alcohol consumption among adolescents with parental financial difficulty led to 325 more cardiometabolic cases (95% confidence interval: 2 - 647) compared to alcohol consumption by their peers without financial difficulty. This differential effect is driven more by cardiovascular conditions (hypertension, stroke, or cardiac failure) than by metabolic conditions (diabetes or chronic kidney disease). There were no differential effects of dietary habits, cigarette smoking and physical inactivity on the occurrence of adult cardiometabolic conditions.

Conclusions: Public health initiatives targeting alcohol consumption during adolescence could mitigate socioeconomic inequalities in adult cardiometabolic conditions.

Key messages:

- Socioeconomically disadvantaged adolescents are more susceptible to the long-term detrimental health effects of alcohol consumption.
- These susceptible groups may need targeted interventions to mitigate the cardiometabolic effect of alcohol consumption.

Abstract citation ID: ckae144.1460
Risk Scores for Five Early Life Domains and Odds of Obesity and Hypertension Comorbidity

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Background: For outcomes such as obesity and hypertension, determinants are likely to be complex and multidimensional. Therefore, to design realistic interventions, epidemiological research should incorporate information from multiple risk exposure domains to assess the effect on health. In this paper we explore risk scores for five early life domains and odds of obesity and hypertension comorbidity.

Methods: We used data from 17,196 participants in the 1970 British Cohort Study. The outcome was obesity (BMI of $\geq$ 30) and hypertension (blood pressure$>$140/90mm Hg or self-reported doctor's diagnosis) comorbidity at age 46. Early life domains included: 'prenatal, antenatal, neonatal and birth', 'developmental attributes and behaviour', 'child education and academic ability', 'socioeconomic factors' and 'parental and family environment'. Stepwise backward elimination selected variables for inclusion for each domain. Predicted risk scores of obesity and hypertension for each cohort member within each domain were calculated. Logistic regression investigated the association between domain-specific risk scores and odds of obesity-hypertension, controlling for demographic factors and other domains.

Results: In unadjusted models, higher domain-specific risk scores were associated with increased odds of obesity-hypertension comorbidity. In adjusted analyses, higher domain-specific risk scores remained associated with increased odds of obesity-hypertension comorbidity, with the strongest associations to the parental and family environment domain (OR1.11 95%CI 1.05-1.18) and the socioeconomic factors domain (OR1.11 95%CI 1.05-1.17).

Conclusions: Appropriate modelling choices of combined effects of early-life risk factors need to be explored and tested. Targeted prevention interventions aimed at population groups with shared early-life characteristics could have an impact on cardiovascular risk in adulthood.

Key messages:

- Targeted prevention interventions aimed at population groups with shared early-life characteristics could have an impact on obesity-hypertension prevalence.
- Appropriate modelling choices of combined effects of early-life risk factors need to be explored and tested.

Abstract citation ID: ckae144.1461
Unveiling loneliness: health determinants of feeling alone in the older urban residents

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In older people health condition contributes to the feeling of being alone (loneliness). We aimed to assess which chronic health conditions are the strongest determinants of loneliness in older urban residents. Participants of the Polish part of the HAPIEE Study (Health Alcohol and Psychosocial Factors in Eastern Europe) examined in 2019-20 were included to the analysis. Trained nurses interviewed respondents in their homes. Loneliness was assessed using 3-item UCLA scale (range: 3-9, cuf-off$\geq$ 6 points). Socioeconomic data, self-rated health (SRH) and the history of 18 diseases diagnosed by the doctor was assessed using standardized questionnaire. Multivariable logistic regression was used; odds ratios and 95% confidence intervals are presented (OR (95%CI)). There were 461 participants (48% males) of mean age 72 years (SD = 6.3). In 34 participants (7%) UCLA score was 6 or more. The majority (63%) of respondents were married or cohabiting. Nearly 90% declared having children. After adjustment for marital status and having children, poor distance vision 3.84 (1.31-6.12), hearing problems 2.20 (1.07-4.53), acute back pain syndrome 2.21 (1.06-4.59) and cancer 2.36 (1.03-5.41) were determinants of loneliness. Further adjustment for age weakened the association with distance vision 2.74 (1.26-5.94) and waved the relationship with hearing problems 2.06 (0.99-4.29). The estimates for remaining health conditions remained almost unchanged. The strongest predictor of loneliness was SRH. After adjustment for age, marital status, having children and objective burden of chronic diseases, compared to good SRH, participants with moderate and poor SRH were more likely to report loneliness by over 3 and 6 times: 3.41 (1.29-9.05) and 6.60 (2.16-20.18), respectively. The perception of poor health and diagnosis of cancer strongly determined loneliness in older people, but other important predictors of loneliness were conditions that objectively hinder maintaining social contacts.

Key messages:

- In older people health condition is related to the feeling of being alone, and the strongest objective health determinant of loneliness was diagnosis of cancer.
- Independently of objective burden of chronic diseases, self-rated health was a significant predictor of loneliness in older urban residents.

Abstract citation ID: ckae144.1462
Characteristics of fatal COVID-19 among pregnant women admitted to hospitals in Kazakhstan

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Background: The factors contributing to the fatal outcome of COVID-19 in pregnant women remain not entirely clear. We compared the prevalence rates of comorbidities and laboratory test results in pregnant survivors and non-survivors.

Methods: This retrospective study relied on clinical and laboratory data obtained from medical records of pregnant women with COVID-19 admitted to three hospitals of the Republic of Kazakhstan from 16.07.2021 to 31.01.2022. Overall, we obtained data on 157 pregnant women with COVID-19, of whom 95.9 % survived and 4.1 % died in the hospitals.

Results: Arterial hypertension was present in 50% of non-survivors vs. 7.9% of survivors ($P = 0.001$), diabetes mellitus was diagnosed in 16.7% of non-survivors vs. 2.3% of survivors ($P = 0.044$), and the rate of hyperglycemia was 40% and 7.2%, respectively ($P = 0.009$). Heart rhythm disturbance was present in 50% of non-survivors vs. 6.4% of survivors ($P < 0.001$), and already at the time of admission to the hospital, the non-survivors had significantly higher heart and respiratory rates. Laboratory tests showed that non-survivors had higher erythrocytes sedimentation rate, C-reactive protein, leukocyte count, and D-dimer levels ($P = 0.001$, $P < 0.001$, $P = 0.038$, $P = 0.014$, respectively). The creatinine level was within the normal range in both study groups, but it was relatively higher in the deceased pregnant women (71.3; IQR: 66-251.75) vs. 52; IQR: 43-63; $P = 0.001$). Finally, a higher proportion of those who died presented with abnormal chest CT as compared with the survivors (33.3% vs. 4.2%, $P < 0.001$).

Conclusions: The deceased had a higher rate of comorbidities. Given the vulnerability of pregnant women to COVID-19, it is essential to plan a prospective study to provide insights into the factors that contribute to severe COVID-19 outcomes in pregnant women.

Key messages:

- Determining risk factors for fatal COVID-19 is crucial for effective medical care of pregnant women.
- Identifying potential risk factors of fatal COVID-19 among pregnant women could help inform public health policies and clinical guidelines.

Abstract citation ID: ckae144.1463
Narrowing socioeconomic inequalities in coronary heart disease: insight from Mendelian randomization

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Background: Socioeconomic inequalities in coronary heart disease (CHD) represent a pressing global public health concern. However, which dimensions of socioeconomic status (SES) affect CHD and the potential modifiable mediators remain elusive.

Methods: We performed two-sample Mendelian randomization (MR) analyses based on summary data from large-scale genome-wide association studies in populations of European ancestry. Specifically, by applying bidirectional univariable MR (UVMR) and multivariable MR (MVMR), we investigated the causal relationships of education, occupation, income, Townsend deprivation index (TDI) with CHD and the independent effects of these SES indicators. We further employed a two-step MR to comprehensively profile the mediating effects of 23 behavioral, 3 psychological and 5 biological factors in the relationships.

Results: An independent causal association was observed between genetically predicated education and CHD, with a 30% lower risk of CHD (OR: 0.70; 95% CI: 0.53-0.93) for each 4.2-year of schooling. Each one-s.d. higher household income was causally, but not independently, associated with a 39% lower risk of CHD (OR: 0.61; 95% CI: 0.49-0.77). No significant causal association was suggested for occupation and TDI with CHD, and no reverse causal effect was observed for CHD on the SES indicators. Of 31 candidate mediators, nine factors mediated the effect of education on CHD significantly, with an individual mediation proportion of 33.5% for smoking, 29.2% for sedentary behaviour, 14.4% for blood lipids, 13.4% for BMI, 11.7% for systolic blood pressure, 9.5% for diastolic blood pressure, 7.8% for well-being spectrum, 6.4% for depression and 2.8% for blood glucose.

Conclusions: This study highlights that education was the primary SES indicator affecting CHD with considerable mediation by a number of modifiable risk factors. These findings inform policies to mitigate disparities of CHD risk attributable to socioeconomic inequalities.

Key messages:

- Education can be prioritized over other common SES indicators as an essential strategy to reduce the burden of CHD.
- Interventions for narrowing socioeconomic inequalities in CHD could focus on more easily modifiable mediating factors.

Abstract citation ID: ckae144.1464
Excess all-cause mortality in 21 countries during 2022: COVID-19 impact by C-MOR project

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National published COVID-19 mortality estimates do not fully encompass the extent of the pandemic's impact on mortality. To address this challenge, calculating excess all-cause mortality at the national level is important. Our focus was on understanding total weekly excess mortality for 2022, by analysing mortality data across 2020-2022, from 21 countries participating in the international consortium (C-MOR), which provided data for examination. Excess mortality was calculated by comparing the weekly 2022 age-standardized mortality rates per 100,000 population against a baseline mortality, estimated using historical data from 2015-2019. Excess cumulative mortality for 2022 was found in all 21 countries. The excess mortality for the total population varied between 8.6 and 116.2, with the minimum excess belonging to Peru and the maximum to Georgia. Australia, Austria, Cyprus, Denmark, Estonia, Georgia, Greece, Israel, and Norway showed a higher excess in 2022 than in 2020, while Australia, Austria, Cyprus, Denmark, Israel, Italy, Norway, Spain, and Sweden also showed a higher excess in 2022 than in 2021. Mauritius showed a significant excess mortality for the first time in 2022. For all countries, but Australia, the % of COVID-19 deaths out of all deaths decreased in 2022 compared to 2021. Contrary to the 'harvesting effect', which would expect a decline in mortality rates post-pandemic, our results underscore a sustained excess mortality throughout 2022. The 2022 excess deaths are mainly non-COVID-related, stemming from broader pandemic impacts on healthcare systems and other factors. Conversely, in Australia, international boarders reopened in 2022, resulting in the first community-wide transmission and a substantial rise in excess deaths. Our study reveals nuanced excess mortality dynamics post-vaccination, providing crucial insights for policymakers and stressing the necessity of continued vigilance and adaptive strategies against COVID-19's diverse impacts.

Key messages:

- All countries investigated experienced continued all-cause excess mortality during 2022, compared to pre-pandemic years. For most, excess mortality in 2022 was higher than in 2021 and 2020.
- For all countries, except Australia, the contribution of COVID-19 deaths to the mortality estimates in 2022 is decreased, highlighting the impact of indirect pandemic related effects on mortality.

Abstract citation ID: ckae144.1465
Are answers affected by data collection on paper or online? The case of Belgian adolescents

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Background: In the early 2000s, the prevalence estimations were compared in relation with the mode of data collection, i.e. paper or online. Following the widely spread routine use of connected devices, especially in adolescents, such a monitoring is of interest. Within the 2022 “Health Behaviour in school-aged children” survey in French-speaking primary and secondary schools of Belgium, those participating could choose between paper and online collection. Our objective was to compare a large set of indicators between the two modes after adjusting for the students’ characteristics.
Methods: After a two-stage random selection of schools and classes, 11,751 10-to-20-year-old adolescents completed the questionnaire either on paper or online. Descriptive analysis and comparisons were conducted using chi2 and multiple logistic regressions adjusted for the students’ sociodemographic characteristics that may vary according to the questionnaire mode.
Results: Overall, 54.9% of the questionnaires were completed online. The choice of the collection mode provided to the schools’ headteachers was associated with the adolescents’ characteristics. Those who completed the questionnaire online were more likely to be in secondary schools, in Wallonia, and of a more favourable socioeconomic profile. After adjustments, no difference in the indicators regarding health, well-being, substance use, or sleep duration was observed. Conversely, a difference was observed for screen time (internet $\geq$2h/weekday: 70.4% on paper vs. 72.3% online; adjusted P-value: 0.02), some food groups (daily vegetables: 51.2% vs. 58.0%; P-value$<$0.001) and body weight status (overweight including obesity: 16.7% vs. 14.0%; P-value$<$0.001).
Conclusions: In some circumstances such as data collection in the school setting, mixed modes are still necessary due to operational issues. While most indicators did not show a difference between online and paper collection, potential implications for others need to be further understood.
Key messages:

- Collecting data through online or paper questionnaires does not lead to major differences in prevalence estimates.
- With the rise of online surveys, further assessment is required to understand the potential declaration biases.

Abstract citation ID: ckae144.1466
Investigation of a Norovirus GII.4Sydney[P16] outbreak in a care facility in Portugal, 2022

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Background: On the 29th of April 2022 the local Public Health unit was notified of 12 cases of acute gastroenteritis in residents of a long-term care facility (LTCF). A joint epidemiological investigation team was established and initiated an outbreak investigation to characterize the outbreak and implement infection control measures.
Methods: Epidemiological questionnaires were administered to staff (n = 44) and residents (n = 60). Case definition was LTCF residents or staff members with at least one of the following symptoms: diarrhoea, vomiting, nausea, between April 25th and May 14th, 2022. Stool or vomit samples were collected for 11 individuals. To assess environmental contamination fifteen food samples from previous meals and six surface samples from toilet faucets, wash tubs, and cutting boards were collected. Spatial distribution of cases within the LTCF was performed to guide infection control implementation.
Results: A total of 43 people met the case definition. Attack rates in residents and staff were 37% (23/63) and 42% (20/48), respectively. Of the total tested specimens, six (6/8) from residents and two (2/3) from staff were positive for the Norovirus (NoV) GII.4 Sydney [P16] variant by genotyping. Two (2/6) samples from surface swabs from the toilet faucet in the resident’s living room were also positive for NoV GII. Food samples were negative for major bacterial agents implicated in gastrointestinal outbreaks. Cases were distributed throughout the LTCF wards with no clear clustering. Four residents required hospital admission.
Conclusions: Results suggest person-to-person as well as environmental transmission of NoV. Identification of behavioural and spatial patterns of residents and staff and subsequent enactment of infection control strategies mitigated the outbreak. These findings reinforce the need for public health to maintain continuous technical support to LTCF on the implementation of infection control best practices.
Key messages:

- Outbreak investigation in LTCF confirms Norovirus transmission, emphasizing the importance of infection control measures in long-term care facilities.
- Study reveals Norovirus outbreak in LTCF, underscores the role of person-to-person and environmental transmission, highlighting the need for robust infection control protocols.

Abstract citation ID: ckae144.1467
Musculoskeletal disorders and risk factors in the modern era: results from the Specchio cohort

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Background: Musculoskeletal disorders (MSDs) represent a major challenge for occupational and public health, but data are scarce in Switzerland or concentrated on a few sectors of activities. The aim of this study is to provide results on the prevalence and risk and protective factors of MSDs in the general working-age population of the Geneva canton, Switzerland.
Methods: A cross-sectional analysis was conducted as part of Specchio population-based cohort study. Prevalence and associations between MSDs and sociodemographic variables, individual behaviour (smoking, physical activity, sleep), health conditions (BMI, chronic diseases), physical and psychological risks at work were examined using regression models. The impact of teleworking was also evaluated.
Results: 2’733 participants took part in the survey, of which 38% were men, and mean age was 50. Overall prevalence of MSDs was 74% among men and 84% among women. 80% of the individuals experience back pain and 56% shoulder pain. Among individuals who experienced MSDs, 55.2% consulted a healthcare professional.

The risk factors for MSDs were female sex (OR = 1.95; 95% IC = 1.55-2.28), body mass index (obese) (2.2; 1.51-3.32), lower education (1.77; 0.84-4.37), smoking (1.65; 1.19-2.35), exposure to physical risks (3.54; 2.78-4.51), stress at work (effort-reward imbalance) (3.23; 2.45-4.29) and a poor work-life balance (2.36; 1.88-2.97). The prevalence of MSDs remained high among workers who telework (78% versus 84% in working population).

Conclusions: This study, carried out in a large population-based cohort, confirmed several risk factors for MSDs. These results will contribute to the implementation of prevention strategies, especially as teleworking has gained in importance in recent years, which may have aggravated workers' isolation and stress, sedentariness, and poor body posture. Main message: These data confirm the weight of musculoskeletal disorders and will help implementation of prevention health strategies.

Key messages:

- The relationship between psychosocial risks at work and the occurrence of Musculoskeletal Disorders (MSDs) persists even following adjustment for exposure to physical risks and individual risk factors.
- The prevalence of musculoskeletal (MSDs) disorders remained high among workers who telework.

Abstract citation ID: ckae144.1468
Waiting for hip fracture surgery: Analysis of individual heterogeneity and discriminatory accuracy

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Background: Evaluation of healthcare inequality could be improved by considering (i) the intersection of socioeconomic axes of inequality, (ii) the existence of individual heterogeneity and (iii) criteria to quantify group differences and how those differences translate into recommendations for universal or targeted interventions. In this study we illustrate how to achieve these improvements.

Methods: We applied analysis of individual heterogeneity and discriminatory accuracy (AIHDA) to analyze data from the Swedish patient registry for the quality indicator hip fracture (HF) surgery within the same day. We analyzed 57,340 patients residing in Sweden during 2011-2014 and belonging to 36 socioeconomic strata defined by age, sex, income, and country of birth and the 21 Swedish regions. We calculated prevalences and 95% confidence intervals as well as the absolute number of cases. The benchmark was set to 80%. To quantify group differences, we evaluated the discriminatory accuracy (DA) using the area under the ROC curve (AUC).

Results: 68% (39,073/57,340) of the patients were operated in time. The prevalence across the 36 sociodemographic strata ranged from 51% (43-58%) to 81% (67-91%). However, the DA was low (AUC= 0.562) indicating very small group differences. About half of the operated HP (n = 20,287) occurs in 18/36 strata with the lowest prevalences of operations in time. The regions' prevalences ranged from 37% (36-38%) to 88% (88-89%) with a rather high DA (AUC= 0.736) indicating larger differences. About half of the operated HP (n = 19,677) occurs in 12/21 regions with the lowest prevalence of operations in time.

Conclusions: The 80% benchmark was only achieved in one socioeconomic stratum and the group differences were very small. 6/21 regions achieved the benchmark and the group differences were large. Interventions aiming to reach the benchmark in the entire population should proportionately target regions and be universal and tailored to sociodemographic strata.

Key messages:

- The AIHDA-framework improves evaluations of healthcare inequalities.
- Both differences between group averages and the groups' DA need be considered when planning healthcare interventions.

Abstract citation ID: ckae144.1469
A novel developed DGS can be used to identify gene loci that may be associated with osteoporosis

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Purpose: Previous meta-analyses only examined the association between single gene polymorphisms and osteoporosis; there is no compilation of all gene loci that correlate with osteoporosis in the literature. In this study, we develop a new literature-based approach, a decisive gene strategy (DGS), to examine the sufficiency of the cumulative sample size for each gene locus and to assess whether a definite conclusion of the association between the gene locus and osteoporosis can be drawn.

Methods: The DGS was used to search PubMed, Embase, and Cochrane databases for all meta-analyses that correlated gene polymorphisms with osteoporosis. Trial sequential analysis was employed to examine the sufficiency of the cumulative sample size. Finally, we assessed the importance of gene loci in osteoporosis based on whether there were enough sample sizes and the heterogeneity of the literature with the I2 value.

Results: After excluding 169 irrelevant publications, 39 meta-analysis papers were obtained. Among Caucasians, in 17 gene loci, there were eight gene loci (e.g., vitamin D Receptor ApaI rs7975232) with sufficient cumulative sample size to confirm that they were unrelated to the disease. Among Asians, in 15 gene loci, four gene loci that had sufficient sample sizes were risk factors: VDR FokI rs2228570 (odds ratio (OR) = 1.44, 95% confidence interval (CI) = 1.22-1.70), TGF β1 rs1800470 (OR = 1.35, 95% CI = 1.10-1.65), IGF1 rs2288377 (OR = 1.44, 95% CI = 1.28-1.62), and IGF1 rs35767 (OR = 1.20, 95% CI = 1.06-1.36), respectively, whereas one gene locus, ESR2 RsaI rs1256049 (OR = 0.69, 95% CI = 0.59-0.81), was a protective factor.

Conclusions: The DGS successfully identified five gene loci in osteoporosis that will apply to other diseases to find causal genes, which may apply disease-related genes in clinical practice, and to provide appropriate disease prevention policies.

Key messages:

- The DGS that will apply to other diseases to find causal genes.
- The DGS, which may apply disease-related genes in clinical practice, and to provide appropriate disease prevention policies.

Abstract citation ID: ckae144.1470
Evaluating perinatal health in Europe: a comparison of routine population birth data sources

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Background: International comparisons provide essential benchmarks for evaluating perinatal health policies, but these rely on the availability of routine national birth data. This study aimed to describe population birth data sources in Europe by their ability to provide core perinatal health indicators.

Methods: The Euro-Peristat Network collected routine national data on a recommended set of core indicators from 2015 to 2021 using a federated protocol based on a common data model with 17 data items. Data providers filled in an on-line questionnaire to describe the sources used in each country. We classified countries by the number of data items they provided (all 16, 15-14, <14).

Results: 28 out of the 31 countries that provided data responded to the survey. Routine data sources included birth certificates (14 countries), electronic medical records (EMR) from delivery hospitalizations (14 countries), direct entry by health providers (9 countries), EMR from other care providers (6 countries) and Hospital Discharge Summaries (7 countries). Completeness of population coverage was at least 98%, with 15 countries reporting 100%. These databases most often included mothers giving birth on the national territory, regardless of nationality or place of residence (19 countries). In 20 countries, routine sources were linked, including linkage between birth and death certificates (15 countries). Countries providing all 16 items (N = 8) were more likely to use EMRs from delivery hospitalizations, 88%, compared to 50% and 13% in countries with 15-14 items (N = 13) and <14 items (N = 8). Linkage was also more common in these countries, 100%, versus 75% and 50% respectively. Other data source characteristics did not differ by the ability to provide data for the common data model.

Conclusions: There is high diversity in the data sources used to construct perinatal health indicators in Europe. Countries using EMR with linkage to other sources had the best data availability.

Key messages:

- There is high diversity in the data sources used to construct perinatal health indicators in Europe.
- Countries using Electronic Medical Records with linkage to other sources had the best data availability.

Abstract citation ID: ckae144.1471
Epidemiology of Dementia in the Campania Region (Italy): A 2015-2020 population-based study

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As the global population ages, dementia poses a significant health challenge, ranking seventh among leading causes of death worldwide. Considering the high societal and financial burden of dementia, our study aims to provide estimates of prevalence and incidence for any dementia and Alzheimer's dementia (AD) in the Campania Region (South Italy). It is Population-based study, using routinely collected healthcare data of individuals living in the Campania Region (South Italy) from 2015 to 2020. We included individuals aged ≥65 years who had at least one administrative record for dementia and/or AD. Prevalence rates adjusted for age and sex used 2020 European population as reference. To estimate incidence, we tested three possible algorithms, which differed for the duration of the time interval between study baseline (Jan 1, 2015) and index date (first record for dementia and/or AD in administrative databases). We employed a clinical database for the validation of our algorithms towards neuropsychological test results. Among individuals, 80,392 had dementia, of which 35,748 had AD. The age- and sex-standardized prevalence rates per 1,000 individuals for any dementia and AD were 77.64 (95%CI=77.57; 77.68) and 34.05 (95%CI=34.01; 34.09), respectively. There were 82.10 incident cases of any dementia per 100,000 per year (0.79 sensitivity and 0.62 specificity), and 59.89 incident cases of AD per 100,000 per year (0.80 sensitivity and 0.59 specificity). The capture-recapture method showed low number of undetected cases (1.7% for any dementia and 3.0% for AD). Our algorithms showed acceptable performance with AUC ranging from 0.59 to 0.72, and double likelihood ratio of correctly identifying individuals above and below MMSE standard cut-offs (24 and 26). Our algorithm, integrating administrative and clinical data, holds potential for assessing dementia's epidemiological burden, identifying risk factors, planning healthcare access, and developing prevention strategies.

Key messages:

- Providing comprehensive estimates of dementia burden aids public health planning and resource allocation.
- Integrated administrative and clinical data provide robust tools for epidemiological analysis and preventive strategies.

Abstract citation ID: ckae144.1472
Linking health-related behaviours to quality of life in older adults: A latent class analysis

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Background: Life expectancy and healthy life years diverge considerably in Austria, and quality of life (QoL) varies widely among older people. Identifying the factors most relevant to QoL in older people is crucial. We aimed to investigate the association between health behaviour, including lifestyle and preventive behaviour, and QoL in this population.

Methods: Cross-sectional data from the Austrian Health Interview Survey (2019) were used, including 3,995 individuals aged 65 years and older. We performed latent class analysis (LCA) to identify patterns of health behaviours. Variables were selected based on the WHO framework of Active Ageing including factors related to lifestyle (physical exercise, fruit/vegetable intake, BMI, oral health, smoking, alcohol use) and the health care system (satisfaction, unmet needs, participation in screening, health checks and vaccination). Domain scores of the WHOQOL-BREF were used for QoL assessment. Class differences were assessed by survey regressions.

Results: In the LCA, four different behavioural classes emerged among the older-aged Austrian population, including (class 1) 'best preventive behaviour and very good lifestyle' (17.7%), (class 2) 'worst lifestyle and worst preventive behaviour, high unmet healthcare needs and unsatisfied with the system' (16.5%), (class 3) 'very good preventive behaviour and best lifestyle, but worst vaccination probability' (24.8%) and (class 4) 'poor preventive behaviour, good lifestyle, but no physical activity' (41.0%). The classes with unhealthy lifestyles (classes 2 and 4) had worse QoL in all domains compared to the classes with healthy lifestyles (classes 1 and 3). The four classes differ on demographic, socio-economic and health characteristics.

Conclusions: To improve the QoL of the older population, policies and interventions need to be tailored to the specific characteristics and needs of each behavioural class.

Key messages:

- This study explores the relationship between health behaviour and QoL in older Austrians.
- Findings support the development of differentiated interventions targeting different types of behaviour.

Abstract citation ID: ckae144.1473
Incidence of type 2 diabetes by occupation – 10-year follow-up of the Gutenberg Health Study

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Background: In order to implement targeted type 2 diabetes (T2D) prevention measures for the workplace, it is important to identify high-risk occupations. Most previous studies examine the association between T2D and occupation cross-sectionally, but longitudinal studies are missing. This study aims to investigate the 10-year incidence of T2D in the working population of a German cohort and identify occupations with an increased risk.

Methods: Data from the population-based Gutenberg Health Study (GHS) were used to examine occupation at baseline (2007-2012) and T2D incidence at the 10-year follow-up. Occupational phases were coded into categories according to the KldB 2010. T2D was defined as either a physician-diagnosed T2D, HbA1c-level $\geq$6.5% or use of antidiabetic drugs. Age- and sex-standardised incidence and 95% confidence intervals (CI) were calculated for occupational groups based on the age- and sex-distribution of the German population. Standardised incidence ratios (SIR) and 95% CI were calculated using the incidence in the total GHS working population as the reference.

Results: Of 8130 workers at baseline, 45.2% were female, the mean age was 48.4 years and 4.5% had prevalent T2D. 388 cases occurred between baseline and the 10-year follow-up within the subgroup of persons without prevalent T2D at baseline and with follow-up data ($n = 5954$). The standardised incidence was 6.9%. "Food production and processing" (20.7%), "cleaners" (16.5%) and "drivers and mobile plant operators" (14.8%) had the highest standardised incidences. Compared to the total working population, we observed a threefold increased SIR for employees in "food production and processing" (3.0, 95% CI 1.8-4.7) and a two times higher SIR for "cleaners" (2.2, 95% CI 1.0-4.7) and "drivers and mobile plant operators" (2.2, 95% CI 1.3-3.3).

Conclusions: We identified occupations with an increased risk of T2D. Preventive measures and etiological research on work-related risks should focus on these occupations.

Key messages:

- The highest standardised incidence was observed in the occupational groups "food production and processing", "cleaners" and "drivers and mobile plant operators".
- Targeted prevention measures for type 2 diabetes in the workplace should focus on these occupational groups with increased incidence.

Abstract citation ID: ckae144.1474
Factors associated with drowning in Portugal, 2019-2023

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Worldwide, mortality from drowning amounted to 236.000 individuals in 2019, corresponding to 8% of the total global mortality, making drowning the third leading cause of death from unintentional injuries and a universal public health problem. Portugal has a coastal zone of 950 km long, with 658 bathing waters and, in 2023, 157 people died due to drowning. This work aims to determine the factors associated with drownings that occurred in Portugal, between 2019 and 2023. This epidemiological descriptive-analytical study used the National Maritime Authority database, regarding the users of the portuguese coastal zone who suffered maritime incidents between 2019 and 2023. SPSS was used for statistical analysis and the results of the Poisson regression models are presented as adjusted prevalence ratios (APR) with 95% confidence intervals, according to individual (sex, age group and nationality), temporal (period of the week and day) and environmental (maritime department and beach surveillance status) variables. The total sample was 406 drownings and 15 860 other maritime incidents. Overall, the frequency of drownings in Portugal was higher in men (APR=1.393, 95%CI=1.130-1.717, p=.002), in the >55y age group (APR=1.780, 95%CI=1.005-3.152, p=.048), in foreigners (APR= 1.293, 95%CI=1.037-1.612, p=.022), on weekends (APR=1.299, 95%CI=1.063-1.586, p=.010), in the afternoon (APR=1.584, 95%CI=1.127-2.226, p=.008) and on unsupervised beaches (APR=2.436, 95%CI=1.958-3.029, p<.001) in comparison with users who suffered other maritime incidents. Individual, temporal and environmental factors are associated with a higher frequency of drownings in Portugal. Despite the limitation of the study that only includes users suffering maritime incidents and not all users of the portuguese coastal zone, our results allow a preliminary characterization of the drowning profile in Portugal and can contribute to the design of preventive strategies and policies to address this public health problem.

Key messages:

- This study shows that there are individual, temporal and environmental factors strongly associated with a higher frequency of drownings in Portugal.
- Portugal has a large coastal zone and the characterization of a drowning profile is the first step for the development of prevention strategies in order to oppose drowning morbidity and mortality.

Abstract citation ID: ckae144.1475
Socioeconomic deprivation and tuberculosis in Germany: a longitudinal spatial analysis (2001–2022)

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Background: Socioeconomic conditions may affect tuberculosis (TB) dynamics. We analyzed the relation between area-level socioeconomic deprivation and TB incidence in Germany between 2001-2022.

Methods: Using nationally representative data at the level of 400 German districts, we fitted generalized linear mixed models to assess the effect of socioeconomic deprivation on TB incidence controlling for age, sex, share of non-nationals population, share of refugees, geographic effects, location and time. We estimated crude and adjusted risk ratios (RR) and corresponding 95% Confidence Intervals (95%-CI) for socioeconomic deprivation quintiles (Q1-Q5), ranging from least (Q1) to most deprived (Q5) districts.

Results: Preliminary findings show that crude TB incidence risk was 7% higher (RR = 1.07, 95%-CI=1.04-1.09) in least (Q1) compared to most deprived areas (Q5). Districts with medium-low (Q2), medium (Q3), and medium-high (Q4) socioeconomic deprivation showed 1% higher (1.01, 0.98-1.03), 4% lower (0.96, 0.94-0.99) and 3% lower (0.97 0.94-1.00) risk, respectively, compared to the most deprived districts (Q5). Fully adjusted incidence risk was 6% lower for Q1 compared to Q5 (0.94, 0.86-1.02), while districts classified in quintiles Q2-Q4 showed 8% (0.92, 0.86-0.99), 6% (0.94, 0.88-1.01) and 3% (0.97, 0.92-1.02) lower risk compared to Q5, respectively.

Conclusions: The adjusted effect of area-level socioeconomic deprivation on the risk of TB incidence has been low in Germany. Not considering the assumed confounders leads to over-estimation of the association between area-level SES and TB. Future studies should explore further area-level or individual factors in order to better understand the spatial variation of TB incidence in Germany.

Key messages:

- Area-level socioeconomic deprivation has a low effect on the risk of TB incidence across German districts.
- Further research is needed in order to better understand the spatial variation of TB incidence in Germany.

Abstract citation ID: ckae144.1476
Measles cluster in Northern Portugal: enhancing surveillance strengths

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Although measles was declared eliminated in Portugal in 2015, outbreaks persist, despite high vaccination coverage. The last outbreak in the northern region was in 2017. Portugal has a Surveillance System implemented for mandatory communicable diseases (SINAVE) integrating clinical, epidemiological and laboratory data. In 2021, WHO expressed concern about the low sensitivity of measles surveillance and urged Portugal to strengthen its surveillance practices. Our study aims to describe a measles cluster in northern Portugal during the first trimester of 2024. Data from measles cases from the first trimester of 2024 were collected from SINAVE. Contact tracing and Public Health (PH) intervention data was sent by Local Public Health Authorities through a survey designed for that purpose. A total of 70 suspected cases were reported and investigated: 6 cases were laboratory confirmed and 64 were discarded. The confirmed cases had a mean age of 28 years (all adults), with 50% female. The mean notification time was 0,3 days. The index case was imported (Mauritania) and unvaccinated, leading to 2 secondary cases. Five cases had 2 doses of a measles vaccine, with 1 case being a health professional. Additionally, 1 case was imported from France. For 2 cases the source of infection could not be unequivocally identified and no travel history during incubation period. A total of 851 contacts of confirmed cases were identified. Although sustainable transmission is not evident in our region, measles is being introduced through migration and tourism. Despite clinical awareness, strengthening early case detection is essential to enforce effective control measures. PH teams have been working tirelessly to trace clusters origins, gathering large number of contacts and adapting strategies for sustained control. In a globalized world, ensuring surveillance sensitivity is paramount. Integrating other data sources in surveillance routine is crucial for upholding Measles-Free Status compliance.

Key messages:

- Measles must take centre stage on our agenda.
- Reinforcing surveillance, integrating additional data sources, is crucial for heightened sensitivity and prompt response.

Abstract citation ID: ckae144.1477
SINAVE's quality: completeness for Meningococcal Disease – Northern Portugal, 2020-2022

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Due to Meningococcal's Disease (MD) severity and impact in public health, in Portugal it is mandatory to notify the suspicious cases to implement effective control measures. MD cases are notified in the National Surveillance System (SINAVE), which triggers epidemiological investigation, risk assessment and community intervention. The quality of SINAVE is defined by various attributes, being their evaluation crucial to improve and guarantee quality standards. Our goal is to evaluate the external and internal completeness of SINAVE for MD in northern Portugal from 2020 to 2022. We have conducted a cross-sectional study, using MD cases from 2020 to 2022. External Completeness was estimated using a two-source capture-recapture method, with data from SINAVE and Diagnostic-Related Group (DRG) cases. Hospital readmissions', duplicates and cases from other regions were excluded. Internal completeness of SINAVE was accessed for each case and for each non-mandatory variable. For external completeness (EC) analysis, 21 of the 23 DRG cases were eligible for matching. Out of 31 SINAVE confirmed cases, 20 were eligible for matching. EC of SINAVE was 66,7%. For internal completeness (IC) analysis, we excluded 7 cases that did not meet the criteria for inclusion. The mean IC was 73,5% (min 38,5%, max 85,7%) when analysing by case. When assessing each of the 30 non-mandatory variables of the reports, 7 (23,3%) had an IC of 100% and 13 (43,3%) had an IC of 0%, the mean value was 49,7%. SINAVE assessment, as a routine, is crucial to identify the need for improvement. Completeness is fundamental to ensure an effective public health response. Our results confirm under-reporting and incomplete report of MD. There is a need to strengthen the improvement of data quality of SINAVE. Future studies may be important to estimate true incidence of MD and compare the results for other diseases in order to improve public health actions.

Key messages:

- Meningococcal disease requires timely public health intervention.
- valuation of the surveillance system is crucial, with completeness playing an important role for data quality and prompt response.

Abstract citation ID: ckae144.1478
Molecular surveillance of A. baumannii in intensive care units: exploration of transmission chains

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Background: Multidrug-resistant Acinetobacter baumannii (MDR-Ab) is one of the main causes of healthcare associated infections (HAIs). During the SARS-CoV-2 pandemic there was an increase in MDR-Ab infections, especially in intensive care units (ICUs). This study aimed to assess the potential spread or emergence of specific clusters of MDR-Ab across four different ICUs at the Umberto I teaching hospital of Rome.

Methods: From January 2020 to January 2022 microbiological surveillance was conducted in four ICUs: two dedicated to COVID-19 patients (ICU-1C, ICU-2C) and two to non-COVID-19 patients (ICU-1R, ICU-2R). The genetic relatedness between A. baumannii isolates was assessed using pulsed-field gel electrophoresis (PFGE). Illumina whole genome sequencing was conducted on 26 representative isolates.

Results: In total, 178 A. baumannii isolates were obtained from 129 COVID-19 patients and 49 non-COVID-19 patients. The isolates were classified into 17 PFGE pulsotypes, being two major (A, B) and five intermediate (C, D, E, H, Q). Clone A was present in all ICUs, while Clone B was present only in ICU-1C and ICU-2R. Overall, 117 isolates belonged to clone A and exhibited a MDR phenotype; all of them were placed within the international clonal lineage II. All isolates showed carbapenems resistance primarily attributed to the presence of the blaOXA-23 gene, while aminoglycosides resistance observed in almost all isolates was attributed to the presence of the armA gene. Small outbreaks involving intermediate pulsotypes were detected between ICU-1R and ICU-2R, ICU-1C and ICU-2R, ICU-1C and ICU-2C, ICU-1C and ICU-1R.

Conclusions: The observed outbreaks could be attributed to a decline in attention to normal care practices for the prevention of HAIs during the COVID-19 pandemic, favouring the spread of MDR-Ab. Therefore, it is recommended the strengthen of control measures and the implementation of long-term strategies targeting MDR microorganisms in the ICUs.

Key messages:

- Acinetobacter baumannii was frequently found infecting patients across four different ICUs at the Umberto I teaching hospital of Rome.
- Acinetobacter baumanni outbreaks and multidrug resistance were observed. Therefore, the implementation of long-term strategies targeting MDR microorganisms in the ICUs is highly recommended.

Abstract citation ID: ckae144.1479
Factors associated with actinic keratoses in people with albinism in the Albivoire program

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Background: People with albinism (PWA) face health inequalities partly due to barriers in accessing health care, consequently delaying the diagnosis of skin precancerous and cancerous lesions. Actinic keratoses (AK), are common precancerous lesions, indicating a high risk of skin cancer. Given the scarcity of research on skin cancer prevention among PWA in Africa, this study aimed to determine the prevalence and factors associated with AK in PWA followed in the Albivoire program.

Methods: This cross-sectional analytical study was conducted within the ongoing Albivoire program in Ivory Cost. Initiated in Ivory Coast in 2021, Albivoire is the largest comprehensive preventive and care initiative with and for PWA, offering medical consultation campaigns in dermatology, ophthalmology, and psychology. Dermatological records of consenting patients were analyzed. The prevalence (95%CI) of AK was estimated, and the associated factors assessed using logistic model.

Results: To date, a total of 1978 PWA received care across four regions (Abidjan, Bouaké, Korhogo and Man). Available data from 475 PWA were analyzed, among whom 247 (52%) were women. The median age was 14 years (interquartile range [IQR]: 7-25). Of these, 181 individuals (38.1%, 95% CI [33.7 - 42.6]) presented with actinic keratoses (AK). The median age of PWA with AK was 22 years (vs 11 years for without AK ($p < 0.001$). Among PWA with AK, 87.8% were daily exposed to sun (vs 12.2% for those exposed occasionally, $p = 0.026$). In the multivariate analysis, factors significantly associated with AK included age 22 years or older (vs age < 22 years, aOR=4.83, $p < 0.001$), the presence of ephelides (vs absence; aOR=2.08, $p = 0.003$) and presence of xerosis (vs absence aOR=4.88, $p < 0.001$).

Conclusions: This study highlights the high prevalence of AK in PWA in Ivory Cost, and identifies specific modifiable associated factors which should be targeted in global health strategies to prevent skin cancer among this vulnerable population.

Key messages:

- Prevalence of skin precancerous lesions (actinic keratoses) in people with albinism in Ivory Cost is high (38%) and associated with modifiable risk factors.
- Tailored public health interventions needed to prevent skin cancers in vulnerable populations, targeting lesions like xerosis, ephelides, and actinic keratoses through skin protection.

Abstract citation ID: ckae144.1480
Inequalities in local funding cuts to environmental and regulatory service expenditure in England

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Background: The financial crisis in 2008 has led to governments across Europe introducing austerity measures. England has experienced significant financial cuts to local authority (LA) services. Environmental and regulatory (ER) services provide key functions in public protection such as, Food Safety (FS) and Animal and Public Health Infectious Disease Control (APH), services which are key infectious disease resilience. Here we investigate inequalities in local funding cuts to ER services by socioeconomic deprivation, LA type, and urbanicity, and impact on key ER service indicators.

Methods: This ecological study uses longitudinal modelling techniques to analyse trends in ER expenditure since the introduction of austerity and the inequalities present. We use Generalised Estimating Equations to estimate the annual percent change of ER service expenditure, and FS and APH expenditure between 2009/10 and 2020/21 in relation to deprivation, LA type and population density. Quasi-Poisson regression is used to assess impact of cuts on ER service indicators.

Results: Areas of higher deprivation had the largest reduction in expenditure, with ER and FS and APH cuts of 2% and of 23% respectively, compared to a 1% and 8% reduction in the least deprived areas. The share of ER expenditure spent on FS and APH decreased by 13% in the most deprived authorities compared to 6% in the least deprived areas. London boroughs had the greatest reductions in FS and APH expenditure, decreasing by 10%. Both ER and FS and APH expenditure decreased with increasing population density. Preliminary analysis shows inequalities in food business hygiene ratings in addition to other key ER service indicators since the introduction of these cuts.

Conclusions: The unequal distribution of cuts shows the need for increased and equitable investment into these services to enable resilience to infectious disease threats, and to prevent widening of health inequalities.

Key messages:

- This work provides strong evidence of inequalities in local funding cuts to ER services and highlights where investment should be focused, in order to protect environmental and public health.
- This work introduces the impact of local funding cuts on a vital public health service and lays the foundation for future work into the unequal impact of cuts to these services on health outcomes.

Abstract citation ID: ckae144.1481
Comparing statistical forecasting methods for modelling respiratory virus healthcare demand

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Background: Emergency departments in the United Kingdom are under sustained pressure with rising demand for healthcare, gradually decreasing the functionality of the NHS. Forecasts can aid management in the allocation of appropriate healthcare supplies and staffing needs in advance of an expected surge, as well as allow stakeholders to assess most likely outcomes and potential worst-case scenarios. This is especially valuable during the seasonal waves of respiratory infections. Respiratory viruses are usually concentrated in a 6-8 week seasonal surge during the winter period, creating large pressure on the health system. Current forecast models' performance depreciates significantly after 1 week. This analysis will forecast 6 weeks of respiratory health admissions, comparing traditional and newly emerging forecasting methods.

Methods: Using 20 years of English hospital admissions data, we evaluated both within season training models (2-20 weeks) and longer term seasonal models (1-10 years), to forecast 6 weeks of hospital admissions. Respiratory admissions were defined according to ARI/ILI ICD10 codes assigned in hospital, stratified by age and region. Models were iteratively constructed, trained and probabilistic forecasts were evaluated across the respiratory season of September to April using Weighted Interval Score. Averages of each model across iterations were generated for comparison.

Results: For non-seasonal models, shorter model training lengths created better forecast models for 6 weeks. For seasonal models, optimal training length varied across model complexity. Simple models performed best at forecasting 1 week, however performance deteriorated the most as the forecast window increased. Overall, the Prophet model performed best on average at forecasting 6 weeks across all scenarios.

Conclusions: Applying our framework for optimal model selection in forecasting analysis will help to inform better practice for future health demand modelling.

Key messages:

- This analysis will inform better practice for future health demand forecasting 6 weeks in advance, allowing for preparation of resources for seasonal surges in healthcare demand.
- This analysis suggests using models with modest levels of increased complexity over simpler models could significantly improve forecast performance in the short-medium term.

Abstract citation ID: ckae144.1482
Tobacco smoking during COVID-19 pandemic among social media users in Russia

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Background: The COVID-19 pandemic has forced countries to take various restrictive measures, including "lockdowns", which may have affected tobacco smoking. The study explored associations between an increase in smoking, sociodemographic, and related to pandemic factors during pandemic among social media users in Russia.

Methods: Between June-September 2020, 1518 users of the most popular in Russia social media networks participated in online survey investigating changes in alcohol, tobacco, and substance use during pandemic. Binary logistic regression was used to identify factors associated with an increase in tobacco smoking. The analysis was adjusted for sex, level of education, perception of the severity of public life restrictions, negative work/financial consequences of the pandemic, stress, changes in the frequency of drinking, heavy episodic drinking (6 or more standard drinks at a time), and the volume of alcohol consumed on a typical occasion.

Results: 46.8% of the surveyed population were current smokers. 17.0% of them reduced, 37.9% increased, and 45.1% didn't change their smoking during the pandemic. Relative to those whose smoking reduced or didn't change, those who increased their smoking were more likely to be: 18-29 years old (OR = 1.906; 95% CI = 1.109-3.277), residents of medium to big cities (up to 1 mln inhabitants) (1.519; 1.017-2.270), had their income reduced (1.508; 1.024-2.222), faced severe restrictions in everyday life as a result of measures taken to contain SARS-CoV-2 (2.398; 1.440-3.758). After introducing alcohol consumption variables to the model, only two factors were associated with an increase in smoking: severe restrictions in everyday life (2.147; 1.227-3.993) and increased frequency of heavy episodic drinking during pandemic (2.338; 1.167-4.685).

Conclusions: Increase in tobacco smoking during pandemic was associated with severe restrictions in everyday life and increased frequency of heavy episodic drinking among social media users in Russia.

Key messages:

- More than a third of social media users increased tobacco smoking during pandemic, which was associated with severe restrictions in everyday life and increased frequency of heavy episodic drinking.
- During pandemics and similar public health crises, it is advisable to expand remote counseling services for alcohol and tobacco cessation, which can be delivered through social media.

Abstract citation ID: ckae144.1483
Race/Ethnicity, Education, and All-Cause Mortality in US Adults: Mediation by Telomere Length

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Background: Racial/ethnic inequities in mortality risk are pervasive in the United States even after controlling for socioeconomic status indicators such as educational attainment. Although the mechanisms underlying these inequities remain unclear, telomere length (TL) has emerged as a potential mediator. We aimed to investigate the joint association of race/ethnicity and education with all-cause mortality risk, and the contribution of TL to this relationship.

Methods: We used data from the U.S. National Health and Nutrition Examination Survey, 1999 to 2002, and 2019 Linked Mortality File (n = 6,526 non-institutionalized adults aged 25 years or older, including 2,166 deaths), a retrospective cohort study with a follow-up period to December 31, 2019. Cox proportional hazards regression and causal mediation analysis were used to address these aims. We reported hazard ratios (HR) and 95 % confidence intervals (CI). Furthermore, for the mediation analysis, we reported the total, direct, and indirect effects measured as HR and 95 % CI.

Results: After adjusting for age and sex, among White individuals, those with less than a high school education had a 2.26 times higher (95% CI: 1.93, 2.65) rate of all-cause mortality compared to those with some college or higher education. When compared with White adults with at least a college degree, Black adults with at least a college degree had a 1.38 higher rate of dying (95% CI: 1.04, 1.84). There was no significant joint association of race/ethnicity and education on all-cause mortality in Mexican Americans. In the mediation analysis, TL did not significantly contribute to the joint association of race/ethnicity and education with all-cause mortality risk.

Discussion: These findings underscore the need for a better understanding of the joint relationship of race/ethnicity and education on mortality risk inequities and their potential mechanisms to improve population health ultimately.

Key messages:

- Lower educational attainment was associated with higher mortality rates among White individuals, disparities persisted among the Black population, despite higher education levels.
- Our analysis did not find a significant mediation effect of telomere length on the joint effect of race/ethnicity and education-mortality relationship.

Abstract citation ID: ckae144.1484
Mammography screening among women attending primary healthcare centers in Monastir, Tunisia

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Background: Breast cancer is the leading cancer among women worldwide. Early detection through mammography screening improves prognosis and enhances survival rate for this disease. The aim of this study was to identify the factors associated with mammography screening utilization among women attending primary healthcare centers.

Methods: A cross-sectional study was conducted in four primary healthcare centers in Monastir governorate in October 2023 using a pre-tested questionnaire. Women aged over 45 years-old were included as they were the target group in the breast cancer screening strategy. Univariate then multivariate analyses were performed in order to identify the factors associated with mammography screening utilization. Data was analyzed by SPSS 21.0.

Results: A total of 192 women were included in the study with a mean age of 56.7±8.8 years-old. Among them, 79.7 % (n = 153) were married and 51.6% (n = 98) had three children and less. A total of 55.3 % (n = 94) had a primary education level. Regarding participants' practices of breast cancer screening, 35% of our participants have had mammogram. Univariate analysis showed that the knowledge about breast cancer symptoms (p = 0.015), practicing Breast self-examination (BSE) (p = 0.002), being aware about mammography (p = 0.001) and the recommended age of the screening at 45 years-old (p = 0.001) were significantly associated with adherence to breast cancer screening. Multivariate analysis revealed that practicing BSE (ORa=2.60 [95%CI: 1.22-5.55] and knowing the recommended age of mammography screening (ORa=2.28 [95%CI: 1.17-4.45] were significant ($P < 0.05$) predictors of mammography screening utilization.

Conclusions: Mammography screening rate is low. This study had provided some informations about factors influencing mammography screening. Policymakers and public health practitioners should consider the identified factors when developing intervention programs to improve breast cancer screening.

Key messages:

- There is a need to conduct education sessions in schools to raise awareness about breast cancer screening at an early age.
- Social media can be a tool for health education on mammography screening.

Abstract citation ID: ckae144.1485
Memory impairment after one year of the acute episode of Covid-19 infection

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Introduction: Memory impairment is one of the most frequently reported sequelae of COVID-19 infection. The aim of our study was to estimate the risk of memory disorders one year after the acute episode of COVID-19 infection in the Tunisian population of Monastir.

Methods: This is a cohort study conducted in Monastir University Hospital. The study included two groups: Exposed subjects were randomly selected among those with a positive diagnosis of COVID-19 between September 2021 and January 2022. The non exposed group was selectd among subjects with a negative COVID-19 diagnosis during the same period and who had no COVID infection during the following year. The Mac Nair scale was used to assess memory impairment after one year of follow up.

Results: Our study included 140 subjects diagnosed with Covid-19 and 139 subjects who had never been in contact with this virus. The incidence rate of memory impairment at one year post-Covid-19 infection was 17.9% (IC95% [11.5 - 24.2%]), whereas in the non exposed group it was 9.4% (IC95% [4.45% -14.5%]). Multivariate analysis revealed that the group exposed to Covid-19 had a significantly higher Mac-Nair Total score after one year of the acute episode of infection compared with the non exposed group (exp $\beta = 1.25$, IC95% [1.10; 1.42]). The other main predictors of memory impairment in the study population were age (exp $\beta = 1.006$, IC95% [1.001; 1.01]), diabetes (exp $\beta = 1.67$, IC95% [1.44; 1.95]), history of anxiety and depression ((exp $\beta = 1.71$, IC95% [1.35; 2.17]) and obesity (exp $\beta = 1.25$, IC95% [1.10; 1.42]), whereas vaccination with two or more doses prior to COVID-19 infection (exp $\beta = 0.84$, IC95% [0.74; 0.96]) and male gender (exp $\beta = 0.65$, IC95% [0.57; 0.73]) were found to be protective against these disorders.

Conclusions: Our study allowed us to estimate the risk of long-term memory disorders following Covid-19 infection. This could help better guide preventive measures to reduce the incidence of these disorders.

Key messages:

- The incidence rate of memory impairment at one year post-Covid-19 infection was 17.9%.
- The main other predictors of memory impairment were age, female gender, diabetes, history of anxiety and depression and obesity whereas vaccination prior to COVID-19 infection was a protective factor.

Abstract citation ID: ckae144.1486
Trends in diabetes morbi-mortality and its association with abdominal obesity among Tunisian adults

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Introduction: Tunisia is undergoing rapid nutritional transition, with increasing rates of abdominal obesity. Coupled with rising diabetes prevalence, it poses significant challenges to public health. This study aimed to estimate the morbi-mortality prevalence and trends of diabetes among Tunisian adults, particularly examining its association with abdominal obesity.

Methods: We conducted a secondary data analysis on adults aged 35 to 70 from three national surveys in Tunisia, in 1996 (n = 3513), 2005 (n = 7700), and 2016 (n = 6007) respectively. Mortality data was sourced from the Tunisian National Information System on Causes of Death in 2020. The underlying cause of death was determined using the IRIS software, following WHO guidelines for tabulating mortality statistics. Diabetes was defined according to the American Association of Diabetes criteria. Abdominal obesity was defined as a waist-to-height ratio ≥ 0.6. We performed chi-squared test for trend analysis.

Results: A total of 17220 participants were analyzed. We found a significant upwards trend in diabetes prevalence ($p < 10\text{-}3$): it increased from 13.1%[11.9-14.3] in 1996 to 15.1% [12.5-17.4] in 2005, then to 20.5%[18.9-22.1] in 2016. Linear trend test concluded to significant increase in diabetes prevalence estimated at 56.6% in two decades. Diabetes was significantly associated with abdominal obesity (Odds ratio (OR)=2.17[2.11-2.21]). Diabetes was the leading cause of death among Tunisian adults in 2020 (n = 22715). The proportional mortality due to diabetes was estimated at 6.2% (n = 1407) (6.4% for men and 6% for women). The age group with the highest proportional mortality due to diabetes was 65-70 years old (44.6%).

Conclusions: Our findings highlight the burden of diabetes on public health in Tunisia and its association with abdominal obesity. Hence the urgency to strengthen comprehensive preventive and control measures to alleviate its repercussions among the Tunisian population.

Key messages:

- The prevalence of diabetes increased significantly amongTunisian adults in the past two decades.
- Immediate implementation of targeted interventions and policy measures is imperative to effectively address this issue.

Abstract citation ID: ckae144.1487
Changes in overweight and overweight-related health behavior in higher education students in Finland

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Introduction: Covid-19 pandemic may have had negative effects on overweight and overweight-related health behavior in young adults. The aim was to examine the changes in overweight, physical activity, sedentary behavior and daytime tiredness in higher education students during and after the pandemic.

Methods: Two cross-sectional student representative surveys (aged 18-34 y) were conducted in 2021 (n = 6258, response rate 53 %) and 2024 (n = 3638, response rate 31 %). Overweight (BMI $\geq$25 kg/m2) was based on self-reported height and weight. Physical activity was dichotomized into those meeting physical activity recommendations and others. Sedentary behavior was dichotomized into sitting in front of TV, computer or smart device over three hours a day during leisure time and others. Daytime tiredness was dichotomized into those feeling tired 6-7 days a week and others.

Results: The preliminary results indicate that overweight in women increased from 34 % to 39 % whereas no increase was observed among men (47 % vs. 46 %) between 2021 and 2024. Meeting the physical activity recommendation increased from 46 % to 55 %, the change being similar for both sexes. Sitting over three hours in leisure time in front of TV, computer or smart device decreased from 54 % to 50 %. In men, the prevalence of sitting decreased (62% vs. 57 %) whereas in women no statistically significant change was observed (47% vs 45 %). No statistically significant change was observed in feeling tired almost every day (26 % vs 24 %).

Conclusions: Among higher education students, an increase in prevalence of overweight in women was observed for three years period. Favourable changes were observed in physical activity in both men and women, and sedentary behavior in men. Surveillance of the long-term health consequences of the pandemic in young adults is important for planning and targeting preventive activities.

Key messages:

- Overweight increased among female higher education students after COVID-19 pandemic.
- Factors supporting favourable changes in health behaviour of young adults after pandemic should be examined in longitudinal setting.

Abstract citation ID: ckae144.1488
Risk factors for COVID-19 infection among the German older adult population

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Background: There are scarce analyses on COVID-19 infection risk factors for the older adult population. This study aims to examine COVID-19 infection risk factors in the older adult general population.

Methods: The data for this analysis came from the population-representative Study on Health of Older People in Germany (Gesundheit65+) conducted by the Robert Koch Institute from 10/2021 to 08/2022. We considered information on COVID-19 infection status (self-reported infection confirmed by PRC test at least once vs. never), socio-demographic factors, health risk factors, and different face-to-face interactions. The analysis was restricted to 2,976 individuals aged 65+ years with complete infection status information. We assessed weighted prevalences and used univariable and multivariable logistic regressions to evaluate infection risk factors.

Results: The overall prevalence of infection was 7.2% (95% confidence interval, 6.0-8.7). Infection prevalences were significantly higher (compared to their respective reference group) among participants living in assisted living facilities (24.7% vs. 6.7%), individuals who got help to perform basic activities of daily living (10.8% vs. 6.8%), COVID-19 unvaccinated individuals (25.2% vs. 6.9%), individuals who did not meet family or friends in the last month (12.7% vs. 6.7%), and participants who did not smoke (7.8% vs. 2.6%). No other variable was significantly related to COVID-19 infection. In multivariable analysis, variables independently associated with higher odds ratio (OR) of COVID-19 infection were: living in an assisted living facility OR 3.6 (1.8-7.2), not being vaccinated against COVID-19 OR 4.6 (1.5-14.1), and not smoking OR 1.6 (1.1-2.6).

Conclusions: The preliminary results of this study align with the prevalence of COVID-19 infection found in concomitant studies. A noteworthy element of our study is the vaccine's protective effect. The pandemic had a particularly detrimental effect on residents of assisted living facilities

Key messages:

- Improvement in quality of care and infection preventive measures in nursing homes is necessary.
- Pandemic preparedness must consider the need for help in the daily life of the older population.

Abstract citation ID: ckae144.1489
Neonatal screening for hearing loss and its associated factors: A pediatric hospital experience

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Introduction: Hearing impairment affects 0.6% of children worldwide, with 60% of cases being preventable. Identifying risk factors for hearing impairment would facilitate early detection and better patient prognosis.

Objectives: To identify factors associated with abnormalities in auditory screening in a pediatric hospital.

Methods: A cross-sectional study was conducted on patients assessed in the early hearing detection program at the Pediatric Tower of the High Specialty Hospital of Veracruz, Mexico, between June 2022 and 2023. Screening was performed using otoacoustic emissions initially. Those with abnormalities underwent two retests, and those positive in all three evaluations underwent confirmatory testing. Newborn screening was conducted at discharge for healthy neonates and after reaching a weight of over 1.8 kg and more than 34 gestational weeks for preterm infants. For term and low-birth-weight babies, screening occurred when they reached 2 kg, considering positive results in any of the three tests indicative of altered screening and probable hearing impairment.

Results: A total of 2731 patients were fully evaluated, with 1416 (51.8%) being male, and a median Apgar score of 9 at 5 minutes. The incidence of hearing impairment was 0.7%, comprising 19 patients. Evaluation of sex, 5-minute Apgar score, weight, gestational age, congenital malformations, history of neonatal asphyxia, hyperbilirubinemia, sepsis, TORCH infections, family history of hearing impairment, maternal exposure to ototoxic drugs, substances, COVID-19, gestational diabetes, or maternal hypertension obtaining values of $p > 0.05$ in each of them.

Conclusions: The prevalence of hearing loss is similar to that reported in the literature. In our population, auditory screening abnormalities are not associated with classic perinatal factors, indicating the complexity of contributors to neonatal hearing impairment.

Key messages:

- The neonatal screening program plays a fundamental role in identifying patients with hearing loss even without any clinical factor that arouses suspicion of hearing loss.
- Early diagnosis will favor timely care for patients with hearing loss, favoring their development with adequate care to improve their quality of life.

Abstract citation ID: ckae144.1490
Epidemiology of ESKAPEE Complex at Veracruz Children's Hospital during 2023

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Introduction: The ESKAPEE complex comprises bacterial species known for their propensity to develop multiple mechanisms of resistance against antibiotics. The elevated rates of mortality and morbidity associated with these microorganisms, along with the challenges posed by their treatment, have transformed them into a significant concern in global public health. However, in Mexico, the prevalence of the ESKAPEE complex in pediatric patients within tertiary care hospitals remains understudied compared to adults.

Materials and methods: A cross-sectional, retrospective, and descriptive study was conducted, encompassing 179 bacteria belonging to the ESKAPEE complex. These bacteria were isolated from pediatric patients between January and December 2023 at Veracruz Children's Hospital. Laboratory samples were processed using the

VITEK 2.0 system, and descriptive statistical analyses were performed using SPSS v22 software.

Results: A total of 179 antibiograms were analyzed, with 55.1% corresponding to male patients. The most prevalent age group among pediatric patients was school children (5 to 11 years old), comprising 20.2% of the sample. Blood culture was the most frequently sampled site, representing 35.4% of cases. Klebsiella pneumoniae emerged as the most common bacterium, accounting for 22.5% of isolates. The Pediatric Emergency Department was the primary area from which samples were obtained, constituting 18.5% of the total.

Conclusions: Klebsiella pneumoniae was the most frequently isolated bacteria inside de hospital in 2023, especially among school-aged patients, followed by E. coli, which coincides with reports in the literature from various countries around the world.

Key messages:

- Establishing a national surveillance network within public health institutions is imperative, where ESKAPEE complex microorganisms are reported.
- Knowing the epidemiological profile of the ESKAPEE complex will favor the diagnosis and intentional search for infections with greater etiological certainty.

Abstract citation ID: ckae144.1491
Resistance Profiles of the ESKAPEE Complex at Veracruz' s Children Hospital, 2023

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Introduction: ESPAKEE complex bacteria are well known as a Multidrug Resistance Organisms that cause difficult mange infections. Management of these infections should be based on the monitoring of resistance profiles to provide appropriate therapy to reduce hospitalization costs and patient improvement.

Materials and methods: A cross-sectional, retrospective, descriptive study analyzed 179 ESKAPEE bacteria isolated from pediatric patients (0-18 years) between January 1 and December 31, 2023. Laboratory tests utilized VITEK 2.0 technology, reporting Minimal Inhibitory Concentration (MIC) and classifying them as resistant or non-resistant. Descriptive statistics were generated using SPSS v22.

Results: The study included 179 antibiograms. Among Enterobacter species, E. aerogenes (3) and E. cloacae (17) showed 100% resistance to cefalotin. S. aureus (22) exhibited the highest resistance to Oxacillin (36.4%). Klebsiella pneumoniae (40) demonstrated 97.5% resistance to Ampicillin, followed by resistance to first-generation cephalosporins: cefalotin 62.5%, and third-generation cephalosporins: ceftriaxone and ceftazidime both at 60%. Acinetobacter baumannii (9) showed 100% resistance to Fosfomycin. Pseudomonas aeruginosa (30) displayed 100% resistance to Ceftriaxone, Cefotaxime, and Cefuroxime. Enterococcus faecium (2) exhibited 100% resistance to ciprofloxacin, erythromycin, ampicillin, and levofloxacin, while Enterococcus faecalis (16) showed 50% resistance to tetracycline. E. coli (39) exhibited the highest resistance to Ampicillin (87.2%), while in first-generation cephalosporins: cefalotin 66.7%, third generation: cefotaxime 66.7%, ceftazidime 64.1%, and ceftriaxone 66.7%.

Conclusions: The ESKAPEE complex species isolated in the hospital displayed diverse resistance profiles against various antibiotic families.

Key messages:

- Monitoring ESKAPEE bacteria's resistance profiles enables physicians to select appropriate antibiotics at optimal dosages and timings.
- Physician should know the rate of resistance of the antibiotics that they use for treatment of ESKAPEE bacteria.

Abstract citation ID: ckae144.1492
Long-Term Impact of Infertility and Assisted Reproductive Technology on Cardio-Renal Health in Sweden

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Background: The use of Assisted Reproductive Technology (ART), such as in vitro fertilization (IVF) and intracytoplasmic sperm injection (ICSI), is rising in Europe. These treatments involve high doses of hormones to increase oocyte collection. While most safety studies in women have focused on cancer risks, the association with cardio-renal diseases remains under-explored. This study examines whether the use of ART is linked to coronary ischemic disease (CHD), stroke, brain hemorrhage, other cerebrovascular diseases, chronic kidney disease, and aortic aneurysm/dissection, while also exploring the association between infertility and these conditions.

Methods: A nationwide cohort study was conducted using Swedish national registries, following all nulliparous women who gave birth between 1982 and 2002 until the end of 2017. Descriptive statistics and inverse probability weighted Kaplan-Meier curves to adjust for body mass index, maternal age, country of origin, smoking, and year of delivery, were used to compare 1) women who conceived with or without ART, 2) women who used IVF or ICSI respectively to women with known infertility that conceived without ART, and 3) women with and without known infertility.

Results: Compared to all other women, women undergoing ART were at elevated risk for CHD, stroke, and other cerebrovascular diseases, but after adjustment for underlying risk factors, including infertility, no substantial differences were seen. As a group, women with known infertility were at elevated risk of CHD and stroke, also after adjustment for known background factors.

Conclusions: Data suggest that the use of ART does not increase the long-term risk of cardio-renal diseases. Nonetheless, infertility itself is associated with a higher risk of CHD and stroke.

Key messages:

- Infertility, more so than the use of ART, is linked to elevated risks of CHD and stroke.
- Preventive measures for these conditions should be considered for women with infertility.

Abstract citation ID: ckae144.1493
Health symptoms in individuals with and without post-covid in the Dutch general population

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Background: Health symptoms, often non-specific in nature such as headache and sleep problems, are more prevalent in the aftermath of disasters. Relatively little research focused on non-specific symptoms in the context of the COVID-19 pandemic, including those with post-covid conditions. The aim of this study was to assess the symptomatic profile of people with post-covid conditions, and to assess differences in health symptoms between non-infected individuals, infected individuals, and individuals with post-covid.

Methods: A nation-wide cross-sectional health survey performed in 2022 was combined with routine primary care electronic health records (EHRs). Prevalence of individual symptoms was analyzed, as well as symptom scores for number, duration, and severity of symptoms. The total survey sample consisted of 315,586 individuals. The EHR sample consisted of 29,797 individuals with matched survey data. Both samples were divided into three groups: non-infected, infected, and post-covid.

Results: Survey participants with post-covid experienced significantly (CI 99%) more (incidence risk ratio (IRR) 1.55), longer lasting (IRR 1.87), and more severe self-reported symptoms (IRR 1.95) compared to non-infected individuals. For infected compared to non-infected survey participants, there were hardly differences in symptom scores. The most distinct differences in individual symptoms were observed for loss of smell or taste, fatigue, and respiratory problems. Based on EHR data, the post-covid group is at significantly higher risk of experiencing fatigue, shortness of breath, headache, sleep problems, and dizziness.

Conclusions: Individuals suffering from post-covid are at the highest risk of experiencing health symptoms, both based on self-reported symptoms as well as based on EHRs. The infected group generally experienced more self-reported symptoms than the non-infected, but on average, they experienced them at a shorter duration, and they also reported them to be less severe.

Key messages:

- Health symptom prevalence is higher in individuals with post-covid in the Netherlands.
- This effect is confirmed in self-reported health surveys as well as in primary care registries.

Abstract citation ID: ckae144.1494
Using English General Practice Patient Survey data to explore Long Covid prevalence

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Background: High global burden of Long Covid (LC) has significant implications for population wellbeing, health/social care and the economy. We aimed to assess prevalence of LC, the level of uncertainty general practice (GP) patients felt about whether they were experiencing it and patient characteristics associated with LC.

Methods: This is a secondary data analysis of GP Patient Survey 2023 data (759,149 participants aged 16+yrs in England). The outcomes included self-reported LC, and being unsure about having LC. Identity and socioeconomic characteristics were explored in relation to these outcomes using univariable and multivariable regression analyses.

Results: 4.8% of respondents described themselves as having LC, and 9.1% were unsure whether they had it. Patient age (highest odds at 35-54 years), sex (females more than males), ethnicity (highest odds in Gypsy or Irish Traveller), sexual orientation (increased odds in gay or lesbian or bisexual compared to heterosexual), religion, smoking, carer status, parental status, having a long-term condition, and area-level index of multiple deprivation (higher odds in more deprived areas) were all significantly associated with reporting having LC in the multivariable model compared to answering that question with 'no'. Generally, similar patterns of association to the above were observed in those who answered the Long Covid question with 'unsure' compared to those answering 'no', except for parental status and sexual orientation which were not significantly associated with the outcome in the multivariable model.

Conclusions: This study quantitatively highlights the high levels of uncertainty among primary care patients around experiencing LC, and the unequal distribution of LC burden among population groups. Our findings underline the need for better public health and primary care messaging to raise awareness around LC and ensure that those needing support can access services, particularly those already disadvantaged in society.

Key messages:

- There are high levels of uncertainty about having Long Covid among people attending primary care services.
- There is unequal burden of Long Covid in England underlining the need for improved awareness and access to support, particularly for minoritised groups.

Abstract citation ID: ckae144.1495
Digital Health Literacy Enhancement Strategies Across Diverse Groups: A Scoping Review

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Background: The COVID-19 pandemic has accelerated the use of digital health technologies. Digital health literacy (DHL) is essential for effectively understanding and applying electronic health information. However, unequal access and use of these technologies require interventions to improve DHL for fair healthcare access.

Objectives: This scoping review aimed to identify strategies to enhance DHL in patients and the general population.

Methods: The review used the Joanna Briggs Institute Scoping Review Methodology and PRISMA-ScR guidelines. Eligibility criteria included a wide population, interventions aimed at improving DHL, with no restrictions on outcomes. The search strategy included electronic databases (MEDLINE, PsycINFO, Web of Science), and AI-based software, AS Review, was used for screening.

Results: The review found 5149 articles, 44 met the eligibility criteria. Studies focused on different demographic groups and health conditions. Most interventions were in North America and Europe. The study designs varied. Interventions via mobile apps, online platforms, and in-person sessions aimed at various conditions yielded positive results, including increases in DHL, self-management skills, and health-related behaviors. These interventions involved either independent interventions that focused on DHL or integrated interventions that were part of another intervention that aimed at a health outcome and had an element of DHL enhancement.

Conclusions: The review highlights the importance of DHL in informed decision-making and navigating digital health environments. While many interventions had positive outcomes, methodological limitations challenge the findings, emphasizing the need for more rigorous study designs. Future research should address sustainability, scalability, and the impact of DHL on health disparities, considering cultural sensitivity when developing interventions.

Key messages:

- Scoping review identifies strategies to enhance Digital Health Literacy (DHL), crucial for effective use of health technology.
- Despite positive outcomes, methodological limitations exist. Future research should focus on sustainability and scalability.

Abstract citation ID: ckae144.1496
Adverse Reaction Reports for Skincare: Zero

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Introduction: Suspicions of Adverse Drug Reactions (sADRs) facilitate public health authorities in making decisions regarding the safety of various drugs in the market, thus it is important to be acquainted with these data in our population.

Objectives: To identify suspicions of adverse reactions due to skincare product use among adults in Veracruz, Mexico.

Methods: A cross-sectional, prospective, and descriptive study was conducted, including subjects over 18 years old residing in the metropolitan area of Veracruz, Mexico. A self-administered questionnaire was utilized to identify suspicions of adverse reactions due to skincare product use and their notifications.

Results: 607 subjects participated, with a mean age of 24.61 (±9.85), comprising 78.25% females and 21.75% males. The prevalence of sADRs identified by patients was 37.2%; however, 44.3% reported experiencing skin redness, 42.7% reported burning sensation, and 31.6% noted changes in their skin becoming oilier. 70.20% claimed awareness of potential adverse effects of the products they use, and 37.2% reported experiencing some adverse reactions, with 76.6% indicating that adverse reactions noticed on their skin disappeared upon discontinuing the product. None of the participants notified sADRs upon identifying them.

Conclusions: Not all participants in this study recognize sADRs as adverse effects, indicating the possibility that patients may have experienced adverse reactions without being aware of them, as they may not relate the product to the reaction

Key messages:

- The notification of sADRs is a regulated activity in Mexico, so we must promote its implementation at all levels, since they are fundamental for public health decisions.
- We must carry out educational activities on skin care in order to prevent SADRs or so that the doctor provides care in a timely manner, since the patient does not recognize them.

Abstract citation ID: ckae144.1497
Measles outbreak under the Leaning Tower of Pisa in Italy

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Background: Measles cases in Italy (58,9 mln population) were 8 in 2021, 15 in 2022 and 43 in 2023. Between January and April 2024 there were 213 cases in Italy, with higher incidence in children. Pisa Local Public Health Department (201073 population) experienced a measles outbreak in the same period.

Methods: Cases were classified according to Decision (EU) 2018/945. A bidirectional tracing (backward and forward) was conducted to identify transmission chain and contacts of cases. Immunization status was checked on Regional Vaccination Registry.

Results: 33 suspected measles cases were notified in Pisa between 21st January and 17th April 2024: 16 by General Practitioners and 17 by Hospital Emergency Room. Additionally, 1 undiagnosed case was found during the epidemiological investigation. 2 notifications were withdrawn by General Practitioner because of lack of the diagnostic criteria. Laboratory analysis confirmed 24 cases. Last confirmed case occurred on 23rd February, while not confirmed cases occurred mostly in the last part of the period (6 in a row from 3rd March to 17th April), suggesting an infodemic effect. Women were more affected than men (17 vs. 7). Except for 2 babies (9 months and 1 year old age), the outbreak affected young adults with a mean age of 40 yo. Hospitalization rate was 37,5%. The first 5 unrelated cases occurred between 19th and 21st January. A second wave involved 13 people, 12 of them were related to a single case. Transmission occurred in Emergency Room (7), in a mall (1) and in the neighborhood (4). A third wave involved 4 cases (family contacts). 2 cases were imported from Sicily and Spain. All cases were unvaccinated, 2 were migrants. Around 950 contacts were traced.

Conclusions: In Pisa, high vaccination coverage of children $<$ 2years of age ($\geq$95%) protected school population and cases to spread, but there are pockets of unvaccinated adults which could allow measles circulation.

Key messages:

- An effective public health response is required to contrast increasing measles cases in EU/EE countries.
- As recommended by ECDC, public health services need to close immunity gaps, addressing catch-up actions towards adults and vulnerable groups as migrants.

Abstract citation ID: ckae144.1498
Prevalence and incidence of chronic wounds in Austria - a population-based real-world data analysis

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Background: Chronic wounds are associated with pain, odor, loss of mobility, an increased risk for infection and sepsis and a reduced quality of life. Treatment costs are rising due to the longevity of the population and increasing number of diabetes cases. For service planning in healthcare, it is thus necessary to describe patient characteristics and estimate the prevalence and incidence of chronic wounds. Currently, no data exists on this subject broken down by age group, gender, and province in Austria.

Methods: A retrospective analysis of real-world data was conducted using two merged datasets from an outpatient wound centre and the Austrian Health Insurance Fund. The study population consisted of people who resided in Austria and were covered by statutory health insurance from 2018 to 2022. We performed a descriptive, sociodemographic analysis of the data of patients, followed by a set of cluster analyses using the unsupervised K-means algorithm. From these clusters, we derived subgroup characteristics and patient trajectories and calculated prevalence and incidence rates for chronic wounds according to diagnoses, different age groups, gender, and different regions.

Results: Gender was almost evenly distributed in the wound centre's data set (n = 4963; 49.6% female). The age distribution revealed the age group from 71-80 years being the largest group. In general, more women than men are affected by chronic wounds from the age of 81 onwards. 31% of chronic wound patients had diabetes as an underlying condition. More men were affected by peripheral arterial occlusive disease and diabetic foot syndrome and, conversely, more women by chronic venous insufficiency. These are preliminary results of the analyses.

Conclusions: Chronic wound patients were characterised by older age and multi-morbidity. Interestingly, gender differences appeared in the occurrence of comorbidities.

Key messages:

- This study makes a crucial contribution in making routine data usable for the epidemiological study of chronic wounds, a cluster of diseases of complex aetiology.
- It thus contributes to filling a knowledge gap. The prevalence estimate serves as a basis of knowledge for health care planning and a basis for the health economic assessment of the problem.

Abstract citation ID: ckae144.1499
Knowing the Antibody Status may influence compliance of health care workers to COVID-19 booster dose

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Background: Previous studies showed that the fourth SARS-CoV-2 vaccine dose has a protective effect against infection, as well as against severe disease and death. This study aimed to examine whether knowledge of a high level antibody after the 3rd dose may reduce compliance to the 4th booster dose among health care workers.

Methods: We conducted a prospective cohort study among health care workers vaccinated with the first three doses at Rambam Healthcare Campus, a tertiary hospital in northern Israel. Participants underwent a serological test before the 4th booster vaccine was offered to all of them, with results provided to participants. The population was divided into two groups: those with antibody below 955 AU/ml, and those with 955 AU/ml and higher, a cutoff found protective in a previous study. Multiple logistic regression was carried out to compare the compliance to the 4th booster between the two groups, adjusted for demographic and clinical variables.

Results: After adjusting for the confounding variables, the compliance was higher in those with antibody levels below 955 AU/ml (OR = 1.41, P = 0.05, 95% CI 1.10-1.96). In addition, male sex, and age of 60 years and above were also associated with higher vaccination rate (OR = 2.28, $P < 0.001$, 95% CI 1.64 - 3.17), (OR = 1.14, P = 0.043, 95% CI 1.06 - 1.75), respectively.

Conclusions: Knowledge of the antibody status may affect compliance with the booster dose. Considering waning immunity over time, reduced compliance may affect the protection of health care workers who declined the 4th dose.

Key messages:

- Knowing the antibody status may affect compliance of health care workers with the booster dose.
- Reduced compliance of health care workers may affect their protection.

Abstract citation ID: ckae144.1500
Happiness and all-cause mortality: the HAPIEE study

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Background: The evidence on the association between happiness and mortality is mixed. Similarly, the role of covariates in this association is not clear. Almost no evidence on the topic comes from the Central and Eastern Europe (CEE). This analysis aims to evaluate such association in longitudinal data from three CEE countries, and to investigate the role of other variables in this association.

Methods: The analysis is based on data from 18,362 men and women from the longitudinal Health, Alcohol and Psychosocial factors In Eastern Europe (HAPIEE) study conducted in the Czech Republic, Lithuania and Poland who were 45-70 years old at the start of the study. Happiness was based on 4-points Likert scale answers 'Very happy', 'Quite happy', 'Not very happy', and 'Not at all happy' to the question 'Taking all things together, would you say you are ...'. All-cause mortality was obtained from local or national mortality registers. Cox proportional hazards regression was used to estimate the hazard ratios (HRs).

Results: 2,718 deaths have been observed during the 11 years of follow-up. The mortality rates were 13.0, 14.1 and 20.7/1000 person years in very happy, quite happy and unhappy groups. After adjustment for country and age the HR comparing very happy and unhappy was 0.53 (95%CI: 0.43-0.67) in men and 0.66 (0.48-0.91) in women. This association was reduced after adjusting for socioeconomic characteristics, health behaviours and conventional risk factors (HR 0.78 in men and 0.84 in women); and was further reduced after controlling for health conditions at baseline. No strong evidence for country interaction was identified although the association was slightly stronger in Polish men than in other two countries.

Conclusions: Happiness has been shown to predict all-cause mortality in these three countries from CEE although it may be (at least partly) explained by established risk factors and underlying health conditions. This work was supported by the NPO SYRI (LX22NPO5101). #NGEU

Key messages:

- Happiness is shown to predict all-cause mortality in this CEE population.
- The association seems stronger in men than in women.

Abstract citation ID: ckae144.1501
Epidemiology of hepatitis C from 2015 to 2022 in a central Italian region: the OPT-HepaC project

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Background: Chronic hepatitis C virus (HCV) infection is a major global public health problem. This study investigated the evolving landscape of HCV in Tuscany (Italy) from 2015 to 2022, considering demographic shifts, clinical profiles, treatment regimens, and outcomes.

Methods: The study was conducted in order to characterize HCV-positive patients who started treatment between 2015 and 2022 in Tuscan prescribing centers. The study was part of OPT-HepaC, a project funded by Regional Health Service. Data on demographics, clinical history and outcomes were collected. Three different temporal eras were analysed: the period before andfter the universal availability of direct-acting antivirals (DAA) and the COVID-19 era. Treatment's effectiveness was evaluated by the Sustained Virological Response (SVR12), assessed 12 weeks after the end of treatment. Outcomes included SVR12, non-SVR12 and lost to follow-up (LTFU). ANOVA, Kruskal-Wallis test and multinomial logistic regression were used for statistical analysis.

Results: 6882 HCV patients (age: 58.88±14.21) were treated by the centres participating at the study. Males (56.4%) and Italian (91.8%) were predominant. Sociodemographic and variable characteristics vary across the time. While the overall SVR12 remained stable over time ($\chi 2(2)=0.357$, $p = 0.837$), the LTFU rate significantly increased during the COVID-19 era. Facilitating factors for the non-SVR12 and LTFU outcomes were male gender (Odds Ratio (OR)=2.134, $p = 0.006$)/cirrhosis (OR = 1.713, $p = 0.040$)/HIV co-infection (OR = 3.251, $p = 0.005$) and DAA treatment of third generation (OR = 4.187, $p = 0.006$), respectively.

Conclusions: The study provides a comprehensive view of the HCV landscape, highlighting demographic changes, treatment regimens and outcomes. The COVID-19 pandemic affected service delivery, delaying HCV diagnosis/treatment and influencing the LTFU rate. Despite challenges, the region maintained high SVR12 rates, emphasizing the importance of sustained efforts in HCV care.

Key messages:

- The study highlights the dynamic nature of HCV management in Tuscany.
- The study emphasises the need for continuous adaptation to public health challenges, providing insights for future public health strategies.

Abstract citation ID: ckae144.1502
Characterizing a syndemic: STI symptoms, substance use & violence among incarcerated Peruvian women

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Background: Despite increasing rates of incarceration and sexually transmitted infections (STIs) among women globally, STI epidemiological data for this vulnerable at-risk population is limited. We therefore characterized patterns of STI symptoms and explored covariates and drivers of STI symptoms among incarcerated women in Peru.

Methods: Among 249 incarcerated women surveyed on substance use, depression, sexual behavior, STI symptoms and violence, univariate and bivariate analysis informed a latent profile analysis (LPA) and logistic regression assessing for syndemic associations between violence, substance use, and STI symptoms.

Results: Most participants were Peruvian (93.5%), in their late 30s (median=37; range:18-70 years), sentenced to < 5 years (86.6%) and had completed high school (78.7%). 36.9 had ≥ 2 STI; A minority were pregnant (2.6%), had children residing with them in prison (7.2%); symptoms. The LPA model with the best fit revealed the largest (39%) group with a 'syndemic' profile involving co-occurrence of multiple STI symptoms, substance use, and experiences of interpersonal violence (IPV); 86.6% of this latent class were <50 years old. The substance use and violence 'syndemic' profile was associated significantly higher likelihood of having multiple STI symptoms (2+ symptoms: PR = 1.88 (95% CI 1.18, 2.99) or 3+ symptoms PR = 2.55 (95% CI 1.32, 4.93).

Conclusions and Recommendations: The syndemic of younger incarcerated women with substance use and IPV with STI symptoms portends a group at substantially higher risk for HIV and given the structured setting of prisons, should be routinely screened for and treated for STIs. Moreover, these settings can and should screen for and address substance use and IPV and intervene before these women are released to community settings to not only improve individual but public health needs.

Key messages:

- In line with syndemic theory, incarcerated women presenting with multiple STI symptoms (≥ 2) were more likely to be engaged in substance use (illicit drug use and/or alcohol) and experience violence.
- Post-hoc analysis also revealed the rate of substance use was higher among women who engaged in commercial sex work (CSW) pre-incarceration compared to those who were not engaged in CSW.

Abstract citation ID: ckae144.1503
Investigating Transmission Patterns and Genome Sequencing of SARS-CoV-2 in University College Dublin

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Background: This study describes the investigation and management of multiple outbreaks of SARS-Cov2 during the second and third wave of the pandemic at University College Dublin, Ireland from September 2020 to September 2021.

Methods: Relevant data were gathered as part of the public health outbreak investigations led by the UCD Internal Covid Control Team (ICCT) in collaboration with the public health teams of the Health Service Executive (HSE). Results are presented for PCR (polymerase chain reaction) confirmed cases and their close contacts, reported to the UCD ICCT between September 2020 to September 2021.

Results: There were 214 cases notified to ICCT. Among these, 153 cases were in residence on-campus cases. 73 epidemiologically linked clusters identified, where the number of cases linked with each cluster varied between 1 to 27. Additional cases during this period had no obvious epidemiological link to the identified clusters. Of 902 close contacts with PCR test results, 31.5% (n = 284) tested positive. 77% (n = 219) self-reported with mild to moderately symptoms while 23% (n = 65) self-reported as asymptomatic. Retrospective Whole Genome Sequence (WGS) analysis was undertaken after the outbreaks had subsided. The test positive cases were grouped into 6 clusters, and it was shown that many of the apparent sporadic cases were included in these clusters.

Conclusions: The proportion of close contacts testing positive varied significantly throughout the pandemic, with testing policy and type of exposure having the greatest impact. Whole genome sequencing can give a better understanding of webs of transmission to complement epidemiological investigations. It is now possible to undertake sequencing in real time where it can make a contribution to outbreak control and resolution. Public Health professionals should become familiar with WGS and bioinformatics as useful tools in their armory for the control of all communicable diseases not only SARS-CoV-2.

Key messages:

- Combined epidemiological investigations and Whole Genome Sequencing (WGS) provide crucial insights into campus COVID-19 outbreaks, guiding effective control measures.
- WGS integration enhances understanding of transmission patterns, identifies clusters, and equips public health professionals with data-driven approaches for outbreak management beyond SARS-CoV-2.

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Determinants of Long COVID illness duration and service use-an Irish retrospective cohort study

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The Follow-up After Disease Acquisition (FADA) study is a retrospective cohort study of COVID-19 recovery, aimed to characterise the nature and severity of Long COVID (LC) in an Irish community-based sample. Duration analysis is conducted applying Cox's proportional hazards model to those self-reported recovered from LC (n = 577) and a Gompertz distribution parametric model, determined best fit by AIC, for those still ill with LC (n = 928) at time of survey completion. A negative binomial model is estimated to understand the variation of services accessed for LC. The Hazard in this instance is recovery(<1 = contributing factor to duration). Factors significantly contributing to duration of illness are never married (Hazard Ratio (HR):0.689;p:0.01) higher physical activity levels prior to first C-19 infection (HR:0.964; p:0.06) and number of COVID-19 infections (H:0.926;p:0.07). Those that contract more recent variants are likely to recover quicker from their LC illness (baseline Wildtype. Alpha HR:1.7;p:0.0; Delta HR:3.36;p:0.0; Omicron HR:3.8; p:0.0). In variation of services used for LC, there are some major differences between those self-reporting as recovered from LC at time of survey completion and those still ill. Of those recovered, men, those sickest with LC and sick longest use a wider variation of services. Single people use a significantly narrower range of health services to combat their illness. For those still ill higher education, higher levels of physical activity pre COVID-19, healthcare workers, higher rates of comorbidity, those sick longest and those whose health has been most impacted by LC use a wider variation of services. A poorer health rating negatively impacts variation of services accessed for LC illness. More recent strains of COVID-19 are significantly less likely to lead to LC, this offers hope for the future, albeit more research is required to investigate factors to improve recovery rates for those already experiencing LC.

Key messages:

- Those with Long COVID that recover quickly are fundamentally different to those that do not.
- The number of COVID-19 infections is a key indicator of length of Long COVID illness, we need to protect our most vulnerable and put appropriate safeguards in place for healthcare provision.

Abstract citation ID: ckae144.1505

Revisiting COVID-19 Maps with Bayesian Hierarchical Modelling: Socioeconomic Insights from Istanbul

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Objectives: This study explores the spatial disparities in COVID-19 incidence across neighborhoods in Uskudar, Istanbul, and examines the relationship between these disparities and neighborhood-level socioeconomic status.

Methods: This ecological study analyzed cumulative COVID-19 case data for 33 neighborhoods in Uskudar, collected up to 31 December 2020. Socioeconomic status was assessed using the Socioeconomic Development Index (SEDI) scores from Istanbul Metropolitan Municipality. Spatial analysis included Moran's I statistics and Local Indicators of Spatial Association (LISA) cluster analysis. Bayesian Hierarchical Modeling with the Besag-York-Mollie (BYM) model was employed to decompose spatially structured and unstructured variations, adjusting for SEDI scores and their sub-components. Model validation involved convergence diagnostics and Monte Carlo error assessments.

Results: A total of 29,834 COVID-19 cases were identified, with an incidence rate of 56.1 per 1000 residents. Spatial analysis revealed significant clustering of high incidence rates in peripheral and inner city neighborhoods. Moran's I statistic for COVID-19 incidence was 0.331 ($p = 0.003$), indicating positive spatial autocorrelation. SEDI scores were also spatially autocorrelated (Moran's $I = 0.293$; $p = 0.005$) and negatively correlated with COVID-19 incidence ($r = -0.570$; $p = 0.001$). Bayesian hierarchical models confirmed the association between lower socioeconomic status and higher COVID-19 incidence, even after adjusting for spatial autocorrelation.

Conclusions: The study highlights significant spatial and socioeconomic disparities in COVID-19 incidence in Uskudar, Istanbul. Lower socioeconomic status is associated with higher COVID-19 incidence, underscoring the need for region-specific public health strategies that consider socioeconomic factors. These findings can guide future interventions to mitigate the impact of the pandemic on vulnerable populations.

Key messages:

- Study reveals COVID-19 incidence in Uskudar is significantly influenced by socioeconomic status, highlighting need for targeted health interventions.
- Positive spatial autocorrelation found in COVID-19 cases and socioeconomic index suggests clustering in specific Uskudar neighborhoods.

DI. Poster display: Ethics and Law

Abstract citation ID: ckae144.1506
AI-driven ethical issues in the development of personalised therapy for pediatric SIRS patients

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Background: Systemic Inflammatory Response Syndrome (SIRS) is a rare disease often presenting emergency. While the aetiology varies, current diagnostic criteria do not allow differentiation. Hopes are placed on OMICs research and development of Artificial intelligence (AI) algorithms for personalised disease management. Our report aims at identification and analysis of AI-driven ethical issues within the bigger ERA PerMed funded project of development of tailored immunotherapy for paediatric SIRS patients (TIPS) coordinated by Prof. Catharina Schütz from Technic University Dresden.

Methods: Systematic literature review followed by qualitative research methodology. Ten experts with different backgrounds were interviewed. Subsequent thematic analysis was performed by two independent researchers.

Results: Experts were on the opinion that AI can lead to a depart from individual approach in the medicine, as the physician may be induced to only act based on algorithms that are more or less representative ($N = 2$). Interviewees were aware that AI can lead to changes in the assessment of reality, as it is dependent on data quality ($N = 4$). AI-aided decision-making might be useful for special therapeutic situations, although it may not always capture the subtleties of individual situations ($N = 2$). Positive implications of AI were significantly more emphasised, though current frameworks were perceived as more limiting than enabling.

Conclusions: Personalised therapy is making its first steps while the ethical apprehensions has already been there with a strong emphasis on precautionary principle and resulting limitations on the application of AI-algorithms. The multifaceted nature of the AI-driven ethical issues in personalised medicine research requires an interdisciplinary discourse, strengthened ethics training of all professionals involved in the technology development and more active involvement of physicians in the shaping of AI.

Key messages:
- AI algorithms promise therapeutic benefits, not achievable by other means, for specific categories of vulnerable pediatrics patients.
- The multifaceted nature of the AI-driven ethical issues in personalised medicine research requires an interdisciplinary discourse and further ethics training of all stakeholders.

Abstract citation ID: ckae144.1507
Human Rights System Guidelines on the Benefit from Scientific Progress in Access to Medicines

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Health innovation and research has become an economic and profitable activity. Market practices have exposed inequalities, scarcities and inequities in access to treatments and have significantly reduced the decision-making power of governments in the field of public health. Documentary research on the human right (HR) to health (Art. 12) and its interrelationship with the right to benefit from scientific progress (Art. 15, b) of the International Covenant on Economic, Social and Cultural Rights (CESCR) on access to medicines in three bodies of the UN system - the ICESCR Monitoring Committee (CESCR), the Human Rights Council (HRC) and World Health Organisation - over the last 10 years. The documents address three main topics. Market: marketing restrictions, price controls and using flexibility in pharmaceutical patents to reduce costs and produce generics. Innovation: patent protection without barriers to access to medicines for people in need. Health system interventions: giving priority to economic efficiency and sustainability by institutionalising health technology assessment, selecting essential medicines, developing clinical guidelines and integrating and linking regulatory agencies. These normative guidelines minimise the ethical, political and legal dimensions of the human right to enjoy scientific progress in access to medicines as a priority value that should guide public and private action, and emphasise technocratic and financial measures that seek to reconcile the liberal and social logic of the ICESCR.

Key messages:
- In order to maximise the guarantee of human rights in access to medicines, economic and financial considerations should play only a residual role in human rights.
- To give countries greater decision-making power at the global health, the scope of the right to benefit from scientific progress and its applications in health care needs to be expanded.

Abstract citation ID: ckae144.1508
The process of developing a framework for code of ethics

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Issue/Problem: The World Health Organisation (WHO) and Association of Schools of Public Health in the European Region (ASPHER) roadmap for the professionalisation of the public health workforce has noted ethics as a pillar for professionalisation. It also highlights the need for code of ethics and professional conduct for all public health professionals and institutions. The Global Network for Academic Public Health (GNAPH), in collaboration with EUPHA, ASPHER, and the UK Faculty of Public Health has been working together for a code of ethics.

Description of the problem: The WHO/ASPHER group asked for a framework to be developed by the expert group as part of the rollout of the professionalisation agenda. The objective of this work was to develop a guide that is applicable to different countries within Europe to develop their own of code of ethics and conduct. A modified Delphi approach to building consensus amongst professionals in ethics included law, academia, and public health professionals. The questions sought to be answered were what and how to develop a framework and what should be included in the guide for creating a public health code of ethics.

Results: Throughout this method we developed five values, and twelve principles that are essential for the development of a code of ethics through a consensus building exercise. This framework was the first of its kind as part of the professionalisation agenda for different regions. There will be ongoing work piloting this framework in practice with various professional groups and institutions.

Lessons: Throughout this process, the need and demand across the public health community for ethical education and development of code of ethics was made evident. Collaboration between academics, ethicist, lawyers, and public health professionals and policy makers were key in developing a public health code of ethics. Identifying the challenges with monitoring and evaluating of its implementation a public health code of ethics.

Key messages:

- Ethics, and a code of ethics are an essential component of the professionalisation agenda of the public health workforce.
- There is need for continued collaboration and partnership with public health professionals and institutions in enacting its implementation and evaluation.

Abstract citation ID: ckae144.1509
Ethics in social listening in infodemic management in health emergencies

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Issue: During the COVID-19 pandemic and subsequent outbreaks, health organizations have increased the use of social listening to inform infodemic management and outbreak response activities. This demonstrated the need to provide ethical guidance to organizations, and individuals engaging in social listening practices before, during and after public health emergencies, whilst protecting human rights.

Description of the problem: Social listening as a public health activity draws on analysis of conversations in social media, internet platforms, and feedback from geographically localized communities. Infodemic insights are generated rapidly, to support agile action by health organizations that improves outbreak response, health information delivery, community engagement, or reduction of unintended harm experiences by communities. Social listening involves use of social media and internet trace data, which were traditionally not used in public health for understanding community expressions, WHO convened a panel of experts to develop a framework on ethical considerations for social listening in infodemic management to provide recommendations for health authorities and researchers on practical tools that support setting up new data analysis and use of insights hereto not used in routine.

Results: The guidance framework has been structured into segments that vary from ethical principles and challenges in social listening and generation of infodemic insights, alignment with human rights, substantive principles, procedural principles, and practical guidance for translating these principles into real-world practice.

Lessons: This guidance aims to illuminate the intricate ethical dimensions of social listening and stress the urgent need for ethical guidance in this realm. The framework is a comprehensive inquiry of the ethical scope in social listening, providing valuable insights, practical guidance, and case studies to enhance understanding of this critical global health issue.

Key messages:

- While essential, social listening and infodemic insights come with ethical risks, including potential harm to populations in vulnerable situations, erosion of trust, and misuse of data.
- This ethical framework will govern social listening practices and ensure responsible and ethical social listening.

Abstract citation ID: ckae144.1510
Double edged tech: navigating the public health and legal challenges of digital twin technology

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This research addresses the legal challenges posed by the implementation of digital twin technology in public health. Digital twins are advanced computational models which aim to replicate human organ functions and biological processes. Their goal is to enable the simulation of the entire human body and to personalize the outputs with individual patient's health data. Digital twin technology promises to bridge gap between personalized medicine and precision public health. This research is based on a comprehensive review of the current European and Swiss legal frameworks for medical devices and data protection that apply to digital twin technology. Within these frameworks, digital twins are in a grey area, as they are only considered as medical device software when applied to individuals. They also incorporate artificial intelligence, machine learning, and data analytics, which are already a source of legal concern in a healthcare setting, but their effective use in public health raises additional issues. Preliminary findings suggest significant shortcomings in the legal frameworks regarding data privacy, and the potential for increased surveillance by health insurance systems, which could lead to human rights violations. The public health application of digital twins would require global data analysis of sensitive personal information, raising further questions about the secure storage, transmission, and processing of this data. The study concludes that current legal frameworks must be future proofed to manage the complexities introduced by digital twins in public health. In particular, it suggests that regulatory oversight of medical devices needs to be significantly improved in order to safely harness the potential of digital twin technologies for public health. Finally, the new European Union health data space and the forthcoming EU AI act will also play important roles in the implementation of digital twin technologies.

Key messages:

- Applying digital twin technology in public health faces considerable challenges, particularly the issues around data privacy, potential discrimination, and increased surveillance.
- We need to adapt and strengthen existing legal frameworks to effectively manage the complexities introduced by digital twins, ensuring that these technologies can be safely used for public health.

DJ. Poster display: Food, nutrition and diet

Abstract citation ID: ckae144.1511
The corporate political activity of the food industry in Ireland: an analysis and proposed solutions

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Background: The study consisted of mapping the corporate political activity (CPA) of the food industry in Ireland. Following that study, we plan to benchmark the efforts made by the Irish government to address any undue corporate influence on public health policy.

Methods: We followed the INFORMAS methods for studying the food industry's CPA (document analysis) and analysed the key commercial actors in Ireland and their activities over a 24-month period. We also conducted nine semi-structured interviews with key informants.

Results: We found a total of 147 CPA occurrences during the period of analysis. That data was triangulated and completed with information shared by our participants. We found examples of the food industry lobbying the government, shaping scientific evidence, and framing the problems and solutions on diet in ways that would not harm the industry. IBEC, a trade association, and the dairy sector were particularly active in trying to influence public health in Ireland.

Conclusions: Our study shows that the food industry uses its CPA to influence public policy, research, and practice in Ireland. The next step for our project will be to benchmark the Irish government against international standards for its efforts to limit the negative effects of the CPA on public health policy.

Key messages:

- In Ireland, as in other countries, the food industry uses its CPA to interfere with public health policy, research and practice.
- There is a need to address that influence, and we will benchmark the efforts of the Irish government in trying to limit the CPA, against international standards.

Abstract citation ID: ckae144.1512
Effect of plastic-free diet, education and Bisphenol A exposure feedback on urine BPA in adolescent

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Background: BPA is an endocrine disrupting chemical and is mostly taken orally. Adolescence is the critical sensitivity to these chemicals is maximum. This study was conducted to compare the effects of a plastic-free diet program, plastic-free diet education program and BPA exposure feedback on urine BPA levels in adolescents with high use of packaged products.

Methods: The first phase of the two-phase study is descriptive, the second phase is a single-centre, single-blind, three-arm non-randomized experimental design. The study was conducted at Antalya/Türkiye in the 2022-2023 academic year, and in the first stage, adolescents with high use of plastic packaged products and low attitudes towards healthy nutrition were identified. In the second stage, participants were assigned to the group-1 ($n = 36$), group-2 ($n = 36$) and group-3 ($n = 36$) by simple random sampling method. An eight-week plastic-free diet program was applied to the group 1, plastic-free diet education program and BPA exposure feedback was given to the group-2, and only BPA exposure feedback was given to the group-3. Plastic Packaged Product Usage Survey, Attitude Scale towards Healthy Nutrition, and spot urine samples were used to collect data.

Results: It was found that 2% of adolescents used low plastic packaging, 34% medium, 57% high, and 7% very high. Pre-posttest urine BPA levels ng/ml (µg/g creatinine) were 1.98 (2.54), 1.43 (1.51) in the intervention1 group, respectively; 1.91 (2.35), 1.43 (1.47) in the intervention2 group; It was found to be 1.97 (2.49) and 1.49 (1.66) in the intervention3 group. The effect sizes of pre-posttest BPA/creatinine values were calculated as 1.38, 1.13 and 1.09 in intervention1-2-3 groups, respectively.

Conclusions: All three interventions (plastic-free diet program, plastic-free diet education program and BPA exposure feedback) were effective in reducing urinary BPA levels, reducing plastic-packaged product use levels, and increasing attitudes towards healthy eating.

Key messages:

- Since all three interventions are effective in reducing adolescents' urinary BPA levels, it may be recommended to use the intervention appropriate to the field conditions.
- In the post-tests, the use of plastic packaged products by adolescents in all three groups decreased and their attitudes towards healthy nutrition increased.

Abstract citation ID: ckae144.1513
Determinants of appetite in the first year of life: Results from a prospective study of infants

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Childhood obesity, a growing public health problem, was shown to be associated with appetite traits (ATs) in infancy but little research exists on the determinants of early appetite. We aimed to examine the association between parental, pregnancy and infant variables on ATs during the first year of life. We followed up 450 healthy term infants assessing Enjoyment of Food (EF), Food Responsiveness (FR), Satiety Responsiveness (SR) and Slowness in Eating (SE), using the Baby (at 2-4 weeks (wk) & 6m) and the Child (at 12m) Eating Behaviour Questionnaires. Associations between parental sociodemographic and lifestyle, pregnancy, infant feeding and anthropometric factors, and these ATs were investigated. Multivariable linear regression models were built for each AT, incorporating statistically significant variables from minimally adjusted models (sex, gestational age, and ethnicity).

Results primarily focus on ATs at 2-4wks, as later ATs were largely influenced by these values. Higher father's BMI ($\beta = 0.013$, $p = 0.022$) was associated with increased EF at 2-4wks. Later gestational age (β = 0.106, p = 0.032), and gestational diabetes (β = 0.538, p = 0.002) were associated with higher FR 2-4wk while mixed feeding compared to exclusively breast feeding (β =-0.281, p = 0.013) with lower FR 2-4wk. Female sex (β = 0.174, p = 0.009) was positively, while gestational age (β=-0.076, 0.022), father's educational attainment (β=-0.199, p = 0.003), father habitual smoking (β=-0.167, p = 0.020) and 4wk WFA z-score (β = 0.087, p = 0.037) were negatively associated with SR 2-4wk. Lastly, higher 4wk WFA z-score (β=-0.151, p = 0.012) and bottle feeding (β=-0.378, p = 0.003) were associated with decreased SE 2-4wk. Acknowledging that a causal association cannot be established in an observational study, this data suggests that parental lifestyle and pregnancy factors could influence infant ATs and hence risk of later obesity, highlighting the importance of preconception health in mitigating the problem of childhood obesity.

Key messages:

- Appetite traits in early infancy are influenced by infant feeding and anthropometric variables, but also by parental and pregnancy characteristics.
- The importance of preconception health is paramount in mitigating the problem of childhood obesity.

Abstract citation ID: ckae144.1514
Evaluation of food pattern behaviours following nutritional education for health professionals

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Background: The "Work Programme - UN Decade of action on nutrition 2016-2025" highlights the importance of implementing Recommendation 19 of the Second International Conference on Nutrition of FAO and WHO related to nutrition education interventions (NEI) for health professionals (HP), in order to develop nutritional skills based on national dietary guidelines and coherent policies relating to food. The Local Health Agency integrated with Trieste University (ASUGI), since 2009, has performed 25 NEI with the formation of 910 HP. Post pandemic, the content of ASUGI's last 5 NEI, programmed by the prevention plan of the Autonomous Region of Friuli Venezia Giulia, was aligned with the principles of the European Farm to Fork Strategy linked to Sustainable Healthy Diets (SHD).

Objectives: The objectives of the training programme (TP), approved for Continuing Medical Education, was to change and evaluate food pattern behaviour (FPB) of HP (n = 200) to adhere to the SHD. TP was characterized by a systemic view on complex interconnections between nutritional and sensorial food value, sustainability of food chain systems, evolution of urban food environments, as contexts into which SHD choices can be applied. The 2 days training, spread over 14 hours with 40 participants, concluded with interactive work and experiences to applied knowledge and beginning to make informed healthy dietary choices in practice.

Results: 6 months after the conclusion of TP it was reported that the percentage of HP who consumed the recommended portions of fruits and vegetables had increased from 62% to 70% and from 28% to 35% respectively, while those who consumed no cured meats, red meats or legumes, changed from 24% to 35%, from 19% to 25%, from 6% to 3% respectively.

Conclusions: The evaluation of the TP systemic structure has shown its effectiveness in improving some healthy FPB of HP and the importance of applying a continuous improvement process of the program to better adhere to the whole SHD.

Key messages:

- The systemic and integrated structure of nutritional education intervention programs for health professionals contributes to improving their healthy food pattern behaviour.
- The relationships between complex policies of food systems and the 17 SDGs included in the training programs on nutrition education are useful for promoting adherence to healthy and sustainable diets.

Abstract citation ID: ckae144.1515
Proportions and types of different sweeteners in the Hungarian packaged food supply

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Branded food databases facilitate the analysis of sweetener use in commercial packaged food products. The purpose of this study was to map the use of sweeteners in relevant packaged food categories and to assess and compare the nutrient profile of non-sugar (including sugar alcohol) vs. added sugar sweetened food products in Hungary. The foodDB software, developed by University of Oxford, enables automated online data collection, and was used to compile data of all foods and drinks available from four major Hungarian supermarket websites, selected by market share in March 2021. Only products containing either added sugar and/or non-sugar sweeteners were included in the study. These were categorized into 12 food groups using specific search terms. After data cleaning the final product number was 2016. 72% of the products was sweetened with added sugars only, 15% of them with non-sugar sweeteners only and 13% contained both sugars and non-sugar sweeteners. Chewing gums (92%), soft drinks (60%), energy drinks (50%) and pickles (35%) contained non-sugar sweeteners in the largest proportion. More than 90% of flavoured alcoholic beers, chocolate bars, breakfast cereals and yogurts were sweetened with added sugar only. Nine categories included food items containing multiple non-sugar sweeteners per product. The most common non-sugar sweeteners were acesulfame-potassium, sucralose, aspartame present in 15%, 10%, 9% of the total products respectively. Muesli bars with non-sugar sweeteners contained less energy but also less fibre than muesli bars with added sugars only; whereas pickles with non-sugar sweeteners contained less energy but were significantly higher in salt than those products with added sugars only. The presence of non-sugar sweeteners is widespread in the Hungarian food supply; however, their use does not guarantee a more beneficial nutrient profile. Branded food databases are useful tools to analyse the nutrient composition of packaged foods.

Key messages:

- Branded food databases are useful tools to monitor the composition of the packaged food supply.
- The nutrition profile of foods with non-sugar sweeteners can be less favourable than foods with added sugars.

Abstract citation ID: ckae144.1516
Effect of unprocessed and minimally processed foods on blood pressure in children

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Background: The poor eating habits of children, including a decrease in the consumption of unprocessed foods and an increase in the consumption of processed foods, have been associated with excess body weight, which is a well-established risk factor for cardiovascular diseases (CVDs), especially high blood pressure (BP). We aimed to investigate whether the consumption of unprocessed and minimally processed foods is associated with high BP in children at nine years of age.

Methods: Cross-sectional study of 142 Brazilian children participating in a cohort study conducted at the participant's home. The child's food consumption markers were evaluated using the Brazilian Food and Nutrition Surveillance System (SISVAN) and were classified by NOVA. Using a standardized procedure for approaching the child, BP was measured by the auscultatory method. Biological, socioeconomical, demographic, and anthropometric data of the mother and child were also collected. Logistic regression analysis adjusting for important predictors was used to evaluate the association between food consumption and BP.

Results: The prevalence of high BP in children was 20.4%, and the mean systolic and diastolic BP were significantly ($p < 0.05$) higher in children classified as high BP (110.1 and 71.3 mmHg, respectively). An important proportion (44.8%) of children had excess body weight (>85th percentile) and high BP when compared to eutrophic children. Not consuming healthy foods was associated with high systolic BP, even after adjustment for other important covariates ($OR = 3.97$; $p = 0.028$).

Conclusions: Not consuming healthy foods was associated with increased odds of children having high BP at nine years of age. Interventions promoting a healthy diet and the consumption of fruits and vegetables in childhood may contribute to preventing diseases associated with CVD, a global public health problem.

Key messages:

- Educating parents to avoid processed foods and monitoring children's BP are essential actions to prevent associated chronic diseases throughout life.
- Public policies aimed at educating parents to encourage the consumption of healthy foods may significantly contribute to reducing adverse cardiovascular outcomes.

Abstract citation ID: ckae144.1517
Culinary medicine in type 2 diabetes management: co-designing the Cook2DIAbeat training program

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Background: Type 2 diabetes (hereinafter diabetes) stands among the top ten drivers of disease burden. Globally, more than 59 million adults are living with diabetes with a projection of 15% increase by 2045. The Cook2DIAbeat project aims to develop a tailor-made nutrition training program based on culinary medicine, for patients with diabetes to achieve lifelong dietary changes. The aim of the present work was to reveal potential drivers and barriers related to lifelong dietary modifications.

Methods: The study was implemented in February-July 2023 in Spain, Belgium, Greece, and Cyprus. A mixed-method co-design methodology was conducted: co-creation sessions with individuals with diabetes, family members, and healthcare professionals, and an online survey with patients with diabetes.

Results: In total, 23 health professionals and 25 patients and family members participated in the co-creation sessions, and 212 patients in the online survey. Patients and health professionals recognized the added value of the culinary approach for diabetes management. The main perceived barriers for changing dietary habits included difficulties accessing reliable and non-conflicting information, lack of time, emotional and psychological issues, and limited social support. Individuals at an advanced age and of low socioeconomic status seem to demand specific educational approaches addressing the actual challenges of their daily life.

Conclusions: The study indicated that training should provide reliable information and address psychosocial aspects. The translation of the dietary guidelines through the culinary medicine approach seems to be well-received by the target group. Last, the content needs to be tailored to suit the specific age group and socioeconomic background of the patients.

Key messages:

- Reliability, practicability are three key characteristics of a nutrition training program in diabetes management.
- Cultural and socioeconomic barriers needs to be taken into consideration.

Abstract citation ID: ckae144.1518
Revealing the influence of food industry actors in relation to nutritional policies in Belgium

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Unhealthy food is one of the prevailing risk factors of NCDs and cancers, making the food industry a key player in their prevention. However, evidence-based public health policies aimed at reducing consumption of unhealthy food, may threaten industry sales. In response, food industry actors try to influence the development and implementation of these nutritional policies by engaging in corporate political activities (CPA). As part of the Joint Action PreventNCD, the CPA of relevant food industry actors in relation to public health nutritional policies will be assessed. In Belgium, strategies of Fevia, the umbrella organization of the food industry, are examined. This study analyses publicly available information collected from Fevia's website, social media accounts (i.e. X and LinkedIn), newsletters and newspapers. A thematic qualitative analysis is conducted using established frameworks to categorize both framing and action strategies used by the industry. The categorization of framing strategies reveals how the food industry presents the actors, problems, and solutions. The framework of action strategies categorizes the CPA of the food industry under the following six strategies: information and messaging; financial incentives; constituency building; legal action; policy substitution; opposition fragmentation and destabilization. Preliminary results indicate that the

industry often frames itself as 'the good actor' and primarily uses strategies such as 'information and messaging', 'constituency building' and 'policy substitution' to influence policies in Belgium in their favor. In the next phase, interviews with stakeholders (e.g. policymakers, politicians,...) will be performed to collect undocumented information. Overall, this research sheds light on the ongoing CPA of the food industry and will increase transparency in their influence on the development and implementation of effective nutritional policies aimed at reducing the burden of NCDs and cancers.

Key messages:

- This study reveals how the umbrella organization of the food industry in Belgium influences public health nutritional policies through various corporate political action and framing strategies.
- Identifying these CPA increases awareness of the industry's influence, but also promotes their transparency and accountability, which is crucial for reliable and effective nutritional policy.

Abstract citation ID: ckae144.1519
Total sugar intake significantly associated with systolic blood pressure in small sample population

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Background: Hypertension contributes to 45% of all deaths from heart disease and up to 51% of deaths from strokes. Dietary factors, such as sodium (Na+) and potassium (K+) can play a role, but recent studies have also highlighted the importance of sugar intake on blood pressure. Very few studies have evaluated the impact of these factors and their ratio on cardiometabolic biomarkers. This study aims to assess the impact of dietary sugar intake, Na+, K+ and NA+/K+ ratio on hypertension and cardiometabolic biomarkers.

Methods: Fasting venous blood was collected to measure glucose, triacylglycerols (TAG), total cholesterol, HDL-c, ApoA1, ApoB, or hs-CRP, with enzymatic and turbidimetric techniques, and oxidized LDL by ELISA, and IL-6 and TNFa by Luminex system, the latter's in a subset sample. Blood pressure (SBP, DBP, and HR) was measured at least twice with an automatic recorder. Dietary intake was obtained using semi-quantitative FFQ, comprising 82 items, and reported to the previous year. Data was analysed using R software through descriptive analysis and partial correlations adjusted to the participant's BMI. A significant level of 0.05 was used.

Results: 78 participants, aged from 19 to 80 years old ($M = 48,5 \pm 13,5$) were evaluated, with 47% taking hypertensive medication. BMI ranged from 19,7 to 41,1 Kg/m2 ($M = 29,2 \pm 5,4$). The average intake of Na+, K+ and NA+/K+ ratio were 3805±1397 mg, 3980±1300 mg and 1.65±0,38, respectively. Total mean sugar intake (% energy) represents 21,4%. No significant correlation was found between Na+ or K+ with SBP, HR, and the cardiometabolic biomarkers ($p > 0.05$). A positive correlation was found between % sugar intake and SBP ($rs = 0,29$, $p < 0,05$), which remains significant after adjusting for BMI, and a positive correlation, in the borderline of significance, with TAG ($rs = 0,23$, $p = 0,0561$).

Conclusions: N+, K+, and their ratio do not associate with SBP, HR and cardiometabolic biomarkers. However, % of sugar intake is positively associated with SBP.

Key messages:

- Sodium and potassium may not always be associated with changes in blood pressure.
- Sugar intake might have an important role in the etiopathology of hypertension.

Abstract citation ID: ckae144.1520
Undernutrition, and overweight and obesity: the two faces of malnutrition in Brazil, 1990-2019

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Background: The double burden of malnutrition consists of the coexistence of nutritional deficiencies (malnutrition and overweight/obesity. Approximately 2.28 billion children and adults are overweight, and more than 150 million children are malnourished. The Decade of Action on UN Nutrition and SDGs that broaden the focus to both sides of malnutrition: overweight/obesity and nutritional deficiencies.

Objectives: To analyze the global burden of disease attributable to undernutrition and high body mass index (BMI) in Brazil and its 27 states, as well as its association with the socio-demographic index (SDI) from 1990 to 2019.

Methods: Study design: This is an epidemiological time-series study. This study analyzed the undernutrition and high BMI estimated by the Global Burden of Disease study conducted from 1990 to 2019 for Brazil and its states, using the following metrics: absolute number of deaths, standardized mortality rate, and disability-adjusted life years (DALYs). This study also analyzed the correlation between the percentage variation of mortality rates and SDI.

Results: A decrease in the number of deaths (75%), mortality rate (75.1%), and DALYS (72%) attributable to undernutrition was found in Brazil and in all regions. As regarding the high BMI, an increase in the number of deaths was found (139.6%); however, the mortality rate (9.7) and DALYs (6.4 %) declined in all regions, except in the North and Northeast regions, which showed an increase. A strong correlation was identified between undernutrition and high BMI with SDI.

Conclusions: Our study observed a double burden of malnutrition in Brazil, with a reduction in the burden of diseases due to malnutrition in Brazil and variation in the burden due to high BMI according to the socioeconomic status of the region. Public policies are necessary in order to guarantee the human right to a healthy and sustainable diet, together with food and nutrition security and a diminishing of social inequality.

Key messages:

- Overcome the malnutrition public policies are necessary to guarantee the human right to healthy and sustainable food, such as encouraging the production and commercialization of fruits & vegetables.
- Overcoming undernutrition and excess weight requires public policies aimed at reducing social inequality and providing access to healthy food for all, and taxation of ultra-processed foods.

Abstract citation ID: ckae144.1521
Overcoming barriers in implementing healthy school nutrition policies: insights from Ukraine

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The general mortality rate from NCDs in Ukraine exceeds that in European Union countries, (Yurochko et al., 2023) exacerbated by the ongoing war. Healthy nutrition plays a pivotal role in enhancing the overall quality of life and curbing the prevalence of non-communicable diseases (NCDs). Despite its significance, ensuring healthy eating habits, particularly during the early stages of life at the period of setting lifelong habits (Jackson et al., 2020; Riley et al., 2018), remains a challenge. Besides, school-based settings represent an ideal environment for effective intervention because they offer a shared common physical, academic, and social space (Tapia-Fonllem et al., 2020). Through a series of semi-structured interviews with key stakeholders, this study identifies barriers and facilitators to policy implementation, with a focus on educational institutions. Qualitative analysis reveals barriers such as inadequate human resources, funding constraints, resistance from the food industry, and ineffective communication strategies at the family level. Moreover, there exists a disjointed understanding of nutrition standards. However, collaborative efforts with civil society, empowerment of nursing roles, strategic utilization of grants and fundraising, engagement with the food industry, and the adoption of a family-oriented approach emerge as crucial enablers for successful policy implementation. These findings offer theoretical foundations for fostering healthier nutrition environments within schools. This research serves as a roadmap for policymakers and educators striving to create sustainable and effective strategies for promoting healthy eating among early school-age children in Ukraine and beyond. Study finds human resource shortages, funding constraints, and food industry resistance as major barriers to school nutrition policy. Recommendations include collaborative approaches, nurse involvement, and aligned standards for effective school nutrition policy.

Key messages:

- Healthy nutrition plays a pivotal role in enhancing the overall quality of life and curbing the prevalence of non-communicable diseases.
- Through a series of semi-structured interviews with key stakeholders, this study identifies barriers and facilitators to policy implementation, with a focus on educational institutions.

Abstract citation ID: ckae144.1522
The transition towards a healthy and sustainable food system at local level: the Brussels City case

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Despite the European Union's political efforts to promote healthier and more sustainable food systems, challenges persist, with these systems not yet achieving sustainability and still exacerbating health inequalities. The EU-funded FEAST project aims to catalyse this transition through different actions including by focusing on mapping factors shaping food environments in five European cities, including Brussels. This study focuses on mapping existing policies and initiatives by the city government supporting healthier and more sustainable food systems in Brussels City. Policies were then categorized based on Food-EPI domains, types of policies (i.e. financial incentive) and role of the government (i.e. policy development). Results indicated that while Brussels City has a clear strategy (Good Food Strategy) and objectives (Climate Action Plan) to support the transition, there is a notable emphasis on sustainability over health which could be explained by the absence of a dedicated public health expert in the local government. While there are numerous policies focused on improving the school environment (i.e. healthy and sustainable canteens, banned sodas and snack provision, forbidden advertising inside and nearby of unhealthy foods), there is a lack of corresponding measures for public spaces. Furthermore legislative policies are practically inexistent possibly due to jurisdictional barriers from higher governmental levels. Stakeholder interviews will be conducted in the next phase to delve deeper into these issues and to explore potential facilitators and barriers faced in the development and implementation process of these policies. Overall, this research sheds light on the policy landscape in Brussels City, highlighting both progress, areas for improvement and policy gaps in advancing towards healthier and more sustainable food systems.

Key messages:

- Despite EU political efforts to prioritise more sustainable food systems, relevant barriers are still present at local level in Brussels City, hampering the development and implementation of policies.
- In Brussels relevant policies for healthier and more sustainable food systems have been implemented, especially in the school environment, but health seems to be overshadowed by sustainability.

Abstract citation ID: ckae144.1523
Avoiding hedonic contrast to increase acceptance of healthy sustainable school meals

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To promote sustainable eating in schools, new approaches for embracing plant-based (PB) meals are needed. Hedonic contrast (HC) describes how liking for one item is influenced by the recent experience of other items of different hedonic valence. Despite its established impact on liking, HC's effect on intake, particularly in repeated exposure experiments, is limited. Moreover, its effect on food-related emotions remains largely unexplored. Hence, this study investigated how HC influences liking, emotions and intake of an innovative co-created PB dish, served as part of a course meal, at school in a repeated exposure study. Two groups of students (N (HC) =71, mean age=14.5 and N (control) =57, mean age=15.3) were served the same neutrally liked main PB dish (pumpkin stuffed lentils balls (LPA)) after a starter dish (rice with vegetables) which was altered in taste through seasoning and cooking methods to be more (HC) or less (control) tasty. The exposure was repeated once/week for 5 consecutive weeks. Liking and emotional responses for the dishes were recorded through a questionnaire and food consumption by weighting plate waste. HC led to lower liking ($p = 0.037$) and lower positive emotions (cheerful, pleasure) with high arousal (surprise) for LPA, while increasing negative valence emotions (disappointed). Moreover, LPA consumption was significantly lower in the HC group vs the control (45% vs 60% respectively, $p = 0.040$), resulting in lower protein intake in the HC group ($p = 0.029$). The effects of HC remained stable with time. This study, for the first time, reveals a sustained rise in food-related positive high arousal emotions, when foods are presented following less liked food. Since new foods evoking positive valence and high arousal emotions have higher chances to be appreciated than foods evoking positive valence and low arousal emotions, this work opens new perspectives on how to propose new, healthier and more sustainable PB dishes in school canteens.

Key messages:

- Avoiding negative contrast between school meals is a promising strategy to ensure higher liking, intake and increased positive emotions over repeated exposure for innovative plant-based dishes.
- To enhance adolescent's acceptance and uptake of new plant-based dishes in school canteens, it is better to serve them after less tasty options.

Abstract citation ID: ckae144.1524
Exploring the use of meal delivery services in Belgium

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Background: Ready-to-eat meal delivery services have become commonplace in recent years and their growth accelerated during the COVID-19 pandemic. However, the potential ramifications on dietary habits and subsequent health outcomes remain largely unexplored. Given the well-established links between unhealthy dietary patterns and chronic diseases such as obesity, type II diabetes, and cardiovascular diseases, understanding the determinants and public health implications of ready-to-eat meal delivery services use is imperative. This study aims to investigate the determinants associated with the use of ready-to-eat meal delivery services and their implications for health behaviours and outcomes.

Methods: This cross-sectional study is conducted amongst adults residing in Flanders or Brussels, Belgium. A quantitative online survey commenced in April 2024 and is scheduled to conclude by June 2024. Structural equation models will be used to assess determinants and implications of ready-to-eat meal delivery services use. Latent class analysis will be used to identify user profiles and subsequent structural equation modelling will assess determinants of these profiles and their associated health (behaviour) outcomes.

Results: Preliminary results suggest meal delivery usage was higher in younger and middle-income users. Main reasons of use amongst users ($n = 139$) were more time for leisure activities (66%) and supermarket avoidance (64%). Main reasons for non-use amongst non-users ($n = 69$) were not wanting to spend money with meal delivery services (70%) and preference to cook own meals (81%). Data collection is currently ongoing. Further analysis is planned, and full results will be available by November 2024.

Conclusions: This study will provide a better understanding of drivers of meal delivery services use in Belgium and their potential impact on public health. It will also help inform public health strategies targeted at improving dietary habits.

Key messages:

- Recognising that meal delivery services will become ever present in the future, insights into why people order meals for delivery and the potential health implications of such services are essential.
- The use of advanced statistical techniques highlights the potential of the study to offer novel insights into determinants and ramifications of meal delivery services usage.

Abstract citation ID: ckae144.1525
Promoting a sustainable diet among office workers in Sweden: A pilot Study

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Background: Society is facing multiple challenges, including lifestyle-related diseases, alongside global climate change. Actions are needed to promote sustainable lifestyles advocating for healthy and environmentally friendly diets. This study aimed to assess how a sustainable lifestyle, compared to conventional healthy lifestyle education at work, affects participants' energy intake, nutrient consumption, and diet-related CO_2e.

Methods: An 8 week two-armed randomized trial was conducted, comprising a sustainable lifestyle arm ($n = 21$) and a healthy lifestyle arm ($n = 16$) based on the theoretical framework of the Behavioral Change Wheel, in total ($n = 33$) completed the trial. The office workers participated in 6 workshops during working hours. Linear mixed-effects models and analysis of variance tests were used for data analysis. Changes over time are presented as arms combined, along with their respective mean differences.

Results: A significant decrease in mean diet-related CO_2e was observed ($p < 0.001$), with a decrease on average of 0.74 and 0.71 kg CO_2e/day. The mean change in daily kilocalorie intake had a significant decrease over time ($p = 0.008$), on average of 192 and 386 Kcal. Moreover, a significant decrease in mean protein intake was observed ($p < 0.001$), with a decrease on average of 16 and 18 grams, possibly explaining the decrease in CO_2e. No significant differences were observed between the arms at any timepoint.

Conclusions: Promoting sustainable lifestyle habits has a similar impact to advocating for a conventional healthy lifestyle regarding diet. This supports the new Nordic Nutrition Recommendations 2023. Despite the small sample size, insights into facilitating sustainable behaviors can influence public health policies across Europe and the workplace as an arena for health promotion.

Key messages:

- The promotion of sustainable and healthy lifestyle habits at work can promote both individual and planetary health by decreasing diet-related CO_2e emissions.
- Here we demonstrate that the workplace has the potential to act as an arena to combat climate change.

Abstract citation ID: ckae144.1526
The negative health assessment and the different consumption of dietary supplements

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Background: There is an insufficient level of research carried on the consumption of dietary supplements among diverse social and demographic groups, especially among those with a negative assessment of personal health. Therefore, the aim of this study was to assess the consumption of dietary supplements among working-age residents of Lithuania in the period from 2021 to 2023 with respect to social and demographic factors and the assessment of personal health.

Materials and methods: The data for this study were collected after conducting three independent cross-sectional surveys in 2021, in 2022, and in 2023. Each of the samples included 1600 working-age adult residents of Lithuania. Distribution of the respondents by the assessment of personal health and gender, age, marital status, education level, place of residence, employment, income, and

COVID-19 cases among the respondents and members of their families was assessed.

Results: The consumption of dietary supplements differed each year and accounted for 78.1%, 71.6%, and 72.7% of the respondents, respectively ($p < 0.05$). In 2022, the prevalence of the consumption of dietary supplements was lower in the majority of social and demographic groups ($p < 0.05$). In 2023, it was higher among females, younger residents, and those from larger families, who suffered from COVID-19 ($p < 0.05$). Despite similar changes found in the consumption of dietary supplements among those who negatively assessed their health, this group showed more prevalent consumption of dietary supplements among residents with non-university education, unemployed respondents, and those with lower income ($p < 0.05$).

Conclusions: Despite a significantly lower prevalence in the consumption of dietary supplements in 2022, it was higher again in 2023. A negative assessment of personal health is associated with opposite tendencies in the prevalence of the consumption of dietary supplements in the general population.

Key messages:

- Despite a significantly lower prevalence in the consumption of dietary supplements in 2022, it was higher again in 2023.
- The negative assessment of personal health should be taken into account when planning nutritional interventions due to its association with different consumption of dietary supplements.

Abstract citation ID: ckae144.1527
Impact of MaNu dietary counselling on Oxidative Stress and Gestational Weight Gain during pregnancy

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According to the WHO guidelines, to counteract the excessive weight gain during pregnancy and to mitigate the increase in oxidative stress (OS) which naturally increases during pregnancy, a healthy lifestyle and a correct diet are crucial as preventive measures to promote health. The MaNu project was conceived precisely to control these factors through dietary counselling. We expect that pregnant women who voluntarily undergo an educational program consisting of specific and accurate dietary advice will be able to emphasize weight control and contain the increase in OS. Our randomized controlled trial (RCT) has a parallel group design and takes place in the Obstetrics and Clinical Nutrition Departments of Michele and Pietro Ferrero Hospital (Verduno, north-western Italy), where physiological pregnant women are enrolled between 12-17 gestational weeks (GWs). The educational intervention takes place between 12-24 GWs. Dietary habits were collected with a questionnaire and urine samples were analysed to quantify the OS using 15-F2t-isoprostane, malondialdehyde and total antioxidant power. The descriptive analyses are based on paired t-tests. Preliminary analyses on 76 women who completed two out of three time points (T0 and T1) indicate that, of women who received the intervention, 35% experienced excessive weight gain (based on guidelines), compared to 39% shown by controls. Following the counselling, the 15-F2t-isoprostane decreased significantly (mean T0=5.1 ng/ml vs. mean T1=3.5 ng/ml, $p = 0.02$). Concerning nutrient intake, a statistically significant reduction in sugar consumption has been found in the intervention group (mean T0=92.2 g vs. mean T1=83.3 g, $p = 0.03$). Conversely, no correlations have been detected between OS and the main pro and anti-oxidant macronutrients. Although promising, our findings need further verification since the RCT is still ongoing, and it is imperative to attain the anticipated sample size before drawing any definitive conclusions.

Key messages:

- Dietary counselling during pregnancy should be implemented as a preventive strategy used to counteract potential pregnancy complications and ensure the well-being of both the mother and the baby.
- Healthy diet is essential to control the increase in oxidative stress levels during pregnancy and to prevent excessive weight gain, factors that can lead to the onset of pregnancy complications.

Abstract citation ID: ckae144.1528
Representativeness of disadvantaged pupils in a trial to improve beverage consumption in Belgium

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Background: The cluster-randomized controlled trial DRINK was implemented in 2021 to evaluate the effect of interventions aimed at reducing sweetened beverages and increasing tap water consumption among children in French-speaking primary schools in Belgium. Multiple participation issues related to the implementation in the school setting were encountered. Our aim was to describe the individual characteristics of pupils at baseline and their participation in the data collection.

Methods: In 2021, out of a sample of 168 schools stratified by region and socioeconomic index (SEI), 46 were included. Children in grades 3 to 5 were asked to complete a 4-day diary to record all beverages consumed. Questionnaires were completed by children and parents, from which individual characteristics were summarised, such as the Family Affluence Scale (FAS; in three groups).

Results: School participation (overall: 29.0%) was higher in Wallonia (33.0%) than in Brussels (22.0%), and in schools with an intermediate SEI (33.0%). At baseline, a total of 3,631 children participated in the data collection, either through the 4-day diary, the child questionnaire, or the parent questionnaire; 2,013 completed all three instruments. Participating children were more likely to be girls, to have an intermediate FAS, to be born in Belgium, and to have two working parents. The proportion of children attending schools in the Brussels region was 27.9% of the total participating children and dropped to 11.5% for those who returned three valid questionnaires. The proportions of low FAS (14.4% to 11.8%), birth outside Belgium (11.8% to 8.7%), and low parents' schooling (35.3% to 33.8%) were lower among children who completed the three instruments.

Conclusions: The low participation of Brussels schools, possibly exacerbated by the Covid-19 impact, may explain why disadvantaged children were less represented in the baseline sample. Such knowledge is valuable for interpreting the findings of such a trial.

Key messages:

- Participation issues may have affected the representativeness of less advantaged children.
- Documenting such disparities is key to understanding the context in which interventions were implemented.

Abstract citation ID: ckae144.1529
Evaluation of Label Compliance to Allergens in Imported Asian Food Sold in Northern Italy

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Background: The import of Asian food is strongly increasing in the EU. In Italy, the Asian market has expanded over the last 3 decades. Unfortunately, the labelling of these products often implies errors, mainly due to linguistic differences. Consequently, it can become a consistent problem regarding food safety, in particular for allergens declaration. According to EU Reg. 1169/2011 (Annex II), allergens must be labelled in bold and translated in the current language of the Member State. Asian food non-compliant labelling could enhance the probability of allergic consumers to get adverse events; accordingly, it is important to increase controls on the imported products. The present work investigates the label compliance to allergens on Asiatic products imported in Northern Italy.

Methods: Totally, 39 foodstuffs were tested for gluten, 93 for white egg proteins and 118 for milk proteins by commercial ELISA kits according to manufacturers' instructions. Samples were considered non-compliant when the results were above 20 mg/Kg, the law limit for gluten, or above the milk LOD (10 µg/Kg) and the egg LOD (0.4 mg/Kg).

Results: Data showed 18% (CI 95% 0.09-0.32) of non-compliant samples for gluten: 6 samples $>$ 80 mg/Kg (snacks and ready to eat meal) and 1 sample containing 48 mg/Kg (snack). In addition, 19.4 % (CI 95% 0.13-0.28) showed presence of egg proteins (noodles, snacks, patties and pasty). Finally, 13.6% (CI 95% 0.08-0.21) samples were irregular for undeclared milk (noodles and snacks).

Conclusions: Products label report their content and represent an important element for food trading and tracing. The results obtained confirm a high percentage of non-compliant labels, underlining how the consumption of imported products can represent a health risk for allergic consumers. The present work highlights the importance of imported food monitoring to guarantee the consumers health, and of the implementation of standardized/international regulated labelling rules.

Key messages:

- Many non-compliant labels about allergens was observed on Asiatic products.
- Correct labelling of allergens in imported food should be monitored to avoid adverse events.

Abstract citation ID: ckae144.1530
Barriers to adopting a plant-based diet in various Finnish sociodemographic groups

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Background: According to nutrition recommendations, plant-based diets are favorable for both climate and health. However, the adoption of such diets varies between sociodemographic groups. Aims of this study are to examine how large proportions of the population have shifted towards plant-based diets to combat climate change, and to identify perceived barriers to dietary changes by gender, age, urbanization level, education, and household income.

Methods: The study is based on the Healthy Finland Survey conducted in 2022-2023, including 5390 participants (56% women) aged 20-74 years. Questions related to plant-based diet had predefined response options.

Results: Women reported that they had changed their diets to be more plant-based more often than men (46% vs. 31%). Women and men living in urban areas, having high education, or belonging to the highest income quartile had made changes more often than those in other sociodemographic groups. Women and men reported barriers in shifting to more plant-based diets, such as uncertainty about nutritional value (20% and 24%) and lacking skills to prepare tasty vegetarian food (30% and 28%). Disliking vegetarian foods (23%) or not being interested in the topic (28%) were also frequent issues in men, while women commonly cited the preferences of their close ones as preventing them from making vegetarian food (17%). These perceived barriers also differed between sociodemographic groups. For example, while uncertainty about nutritiousness of plant-based diets was most common in the oldest age group (29%), lack of skills to prepare tasty vegetarian food was most common in the youngest age group (35%). One third of men living in remote rural areas or with basic education reported not being interested in the topic.

Conclusions: Understanding barriers that prevent people in different sociodemographic groups from changing their diets to more plant-based is critical in tailoring more targeted and effective health promotion and policy.

Key messages:

- Moving towards more plant-based diets to combat climate change and perceived barriers to dietary changes vary by gender, age, urbanization level, education, and household income.
- Understanding barriers preventing people in different sociodemographic groups from changing their diets to more plant-based is critical in tailoring targeted and effective health promotion and policy.

Abstract citation ID: ckae144.1532
Hip fracture in elderly: malnutrition and health outcomes. A systematic review and meta-analysis

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Background: Hip fracture is a common condition among elderly and one of the leading causes of disability. Malnutrition is widely present in older patients and has been identified in several studies as an important and modifiable prognostic factor for several medical conditions, including hip fracture. The aim of the present study is to evaluate the association between malnutrition, assessed by validated tools, and selected health outcomes for different follow-up intervals from hip fracture, in particular: mortality, changes in mobility/living arrangements and postoperative delirium.

Methods: A literature search on PubMed, Web of Science and Scopus databases up to September 2023, was conducted to identify all studies involving older subjects that reported an association between MNA/GNRI/PNI/CONUT score and health outcome after hip fracture. Meta-analysis was performed by a random-effects model using risk values (RR/OR/HR) extracted from 14 eligible selected studies.

Results: Malnutrition significantly increased the risk of any adverse outcome by 70% at 1 month, and up to 250% at 1 year, showing an increasing trend with longer follow-up periods. One month after hip fracture, malnutrition significantly increased the risk of postoperative delirium by 275% ($OR = 2.75$; 95% CI 1.80-4.18; $p \leq 0.05$), mortality by 342% ($OR = 3.42$; 95% CI 2.14-5.48; $p \leq 0.05$) and mortality hazard risk by 351% ($HR = 3.51$; 95% CI 1.63-7.55; $p \leq 0.05$). One year after hip fracture, malnutrition significantly increased the risk of transfer to more supported living arrangements by 218% ($OR = 2.18$; 95% CI 1.58-3.01; $p \leq 0.05$), declined mobility by 41% ($OR = 1.41$; 95% CI 1.14-1.75; $p \leq 0.05$), mortality by 368% ($OR = 3.68$; 95% CI 3.00-4.52; $p \leq 0.05$) and mortality hazard risk by 234% ($HR = 2.34$; 95% CI 1.91-2.87; $p \leq 0.05$).

Conclusions: These findings underscore that malnutrition worsens outcomes after hip fracture in elderly, emphasizing the importance of nutritional assessment to mitigate potential adverse consequences.

Key messages:
- The results of the present study underscore that malnutrition increases the risk of death and worsens mobility and independence after hip fracture in older adults.
- Routine nutritional status evaluation could prove beneficial in the management of hip fracture older patients in order to prevent potential adverse outcomes.

Abstract citation ID: ckae144.1533
Food depiction in posts of the most popular Lithuanian influencers on Instagram and Facebook

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Background: Considering that content published in social networks might act as risk factor to health, we aimed to assess the prevalence of posts depicting food published by Lithuanian influencers on Facebook and Instagram.

Materials and methods: All publicly available posts (6425 in total) created by 21 most popular Lithuanian influencers on Facebook and Instagram in 2022 were included. The content analysis of the posts was performed and information about food and other health-related factors was registered. Distribution of the posts depicting food was assessed according to social networks, gender, age, and number of followers of influencers.

Results: Every fourth (22.6%) post presented foods. Among these posts, fast food was presented in 10.2%, sweets - in 35.5%, vegetables - in 59.5%, fruits and berries - in 40.7%, cereals - in 39.2%, dairy products - in 36.8%, meat - in 26.6%, sea food - in 12.1%. Overall, women, older influencers, influencers with higher number of followers more frequently posted posts depicting vegetables (respectively, 21.0% vs 5.5%, 18.6% vs 6.7%, 18.3% vs 9.3%), fruits and berries (respectively, 14.5% vs 3.8%, 12.0% vs 6.4%, 11.4% vs 8.3%), cereals (respectively, 13.7% vs 4.7%, 12.2% vs 5.6%, 11.2% vs 8.2%), dairy products (respectively, 13.0% vs 3.2%, 11.0% vs 5.0%, 10.8% vs 6.3%), meat (respectively, 8.6% vs 4.1%, 7.9% vs 4.4%). Women and older influencers more frequently depicted sweets (respectively, 13.3% vs 7.1%, 12.6% vs 7.1%), sea food (respectively, 4.4% vs 1.5%, 3.8% vs 2.0%). More posts portraying food in general, fast food, vegetables, milk and dairy products were posted on Instagram (respectively, 27.5% vs 19.8%, 3.4% vs 2.1%, 16.6% vs 13.4%, 10.0% vs 8.3%) ($p \leq 0.05$).

Conclusions: Every fourth post depict food, more frequently on Instagram. Healthy and unhealthy foods are presented with similar frequency. Female influencers, older influencers and influencers with higher number of followers more frequently depict foods.

Key messages:
- Both healthy and unhealthy foods are presented with similar frequency on social networks – this might lead to the overconsumption of unhealthy foods.
- Differences in depiction of foods between social networks and influencers with different gender, age and number of followers should be taken into account when implementing public health interventions.

Abstract citation ID: ckae144.1534
Adherence to Mediterranean diet and cardiometabolic risk among mountain communities in European Alps

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Background: The Mediterranean diet has emerged as a model promoting a better health status, particularly for cardiovascular diseases prevention. Adherence to the Mediterranean diet (AMD) may vary depending on geographical location and sociocultural factors. Mountains and rural communities may experience lower adherence, also depending on food provision-related services availability. Our cross-sectional study aims to investigate the association between AMD and cardiometabolic risk in a cohort of mountain dwellers. As a secondary aim, we will test if services availability may influence health status via AMD.

Methods: In spring/summer 2023, healthy volunteers from 5 small villages in Italian Alps were enrolled. Dietary habits were investigated by Medi-Lite standardized questionnaire. The waist-to-height ratio (WHtR) was calculated by dividing the waist circumference by height, then used as an anthropometric index for central adiposity and related cardiometabolic risk. Services availability was assessed by network analysis implemented in QGIS. A multilevel logistic regression model, with center as random intercept and adjusted for age, sex, BMI, education and physical activity was used to test the association between AMD and cardiometabolic risk. Ethical approval was provided by University of Turin.

Results: To date, 142 subjects (59.2% females, 49.9±14.0 y.o.) have been enrolled. Preliminary analyses showed that, as compared to the least adherent group, subjects reporting the highest AMD level (3rd tertile of Medi-Lite scoring) were strongly protected from cardiometabolic risk (OR: 0.07, 95% C.I.: 0.01, 0.67; $p = 0.021$). A similar trend was observed for the 2nd tertile.

Conclusions: Our preliminary findings suggest the beneficial role of the Mediterranean diet also in remotely located populations. We plan to investigate how service availability may impact AMD and, indirectly, cardiometabolic health to reinforce the importance of equity in services distribution for Public Health

Key messages:

- Independently of age, sex, BMI, education and physical activity, adherence to the Mediterranean diet can promote cardiometabolic health among rural and mountain communities.
- Mediterranean eating pattern can positively influence central adiposity and should be promoted to ensure more effective prevention strategies in mountain dwellers.

Abstract citation ID: ckae144.1535
Health disparities continue to report in DEIS schools: Irish COSI Round 6 study

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Background: Previous reports have identified clear differences in the prevalence of overweight and obesity among children living with disadvantaged compared to those living in advantaged circumstances. Childhood obesity is influenced by factors in the home environment, including lifestyle behaviours and socio-economic status. The Childhood Obesity Surveillance Initiative (COSI) family survey provides insights into these factors, particularly in children that attend disadvantaged (DEIS) and non-disadvantaged (non-DEIS) schools.

Aim: This study aims to compare various demographic and socio-economic factors within the home environment of primary school children across DEIS and non-DEIS schools in Ireland, elucidating the differences in their performance with implications for health policy.

Methods: Parents of 1st and 2nd class children (mean age 7) from 121 sentinel schools invited to participate in the family survey, returned it by post or online using Lime Survey. Ethical approval was secured for COSI R6, with consent from families. Data on demographics, diet, transportation, activities, and clinical characteristics of children in Ireland were collected, anonymised and analysed in SPSS, comparing children from DEIS ($n = 147$) and non-DEIS ($n = 1014$) schools.

Results: Around 88% of respondents of returned surveys included in the study ($n = 1161$) were mothers. Significant disparity in families with diabetes diagnosis or treatment observed between DEIS and non-DEIS schools (10.6% vs. 5.4%, $p = 0.016$). Breastfeeding rates were higher in non-DEIS schools (57.0% vs. 46.9%, $p = 0.015$). Children consuming at least 3 portions of fruits and vegetables daily were also higher in non-DEIS schools (58.9% vs. 46.0%, $p < 0.001$). More children in non-DEIS schools engaged in physical activities outside of school hours (93.7% vs. 74.5%, $p < 0.001$).

Conclusions: The findings underscore the significant socioeconomic disparities between families whose children attend DEIS and non-DEIS schools in Ireland.

Key messages:

- Irish COSI R6 reveals disparities in health-related factors between disadvantaged and advantaged schools.
- Targeted interventions and policies are necessary to address factors influencing child health.

Abstract citation ID: ckae144.1536
The role of weight stigma and food literacy in eating behaviour

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Background: Overweight/obesity is associated with negative health outcomes that may be caused by experience and internalization of weight stigma. Weight stigma seems to diminish weight control efforts and may be associated with unhealthy eating behaviours. Moreover, lack is known about the protective factors against stigmatization. We aimed to assess the role of weight stigma and food literacy in eating behaviour in people with overweight and obesity controlling for sociodemographic and clinical variables.

Methods: A total of 189 participants with overweight/obesity (52.9% female; mean age 48.8±14.5 years; body-mass index (BMI) 32.6±6.5 kg/m2; waist-to-height ratio (WHtR) 0.6±0.1) completed the Experienced Weight Stigma Questionnaire and the Weight Self-Stigma Questionnaire. To examine eating behaviours including cognitive restraint, uncontrolled eating, and emotional eating we used the Three Factor Eating Questionnaire. Multiple linear regression analyses were performed.

Results: Higher WHtR and BMI were associated with emotional eating and uncontrolled eating. Experienced weight stigma was associated with emotional eating but was no longer significant when self-stigmatization was added to the regression model. Self-stigmatization was associated with emotional eating and uncontrolled eating. This association attenuated when food literacy was added to the final models. Low food literacy was significantly associated with emotional and uncontrolled eating. No role of weight-related measures, stigma or food literacy in the cognitive restrain was found. The explained variance in the final regression models for emotional eating and uncontrolled eating was 41%, and 32.7%, respectively.

Conclusions: Emotional eating and uncontrolled eating may represent crucial components to address in health and weight management. Nutrition literacy may have a positive effect on diminishing associations between weight stigma and unhealthy eating patterns. [Funding: VEGA: 1/0748/22].

Key messages:

- Eating disorder symptoms and their association with obesity should be considered when designing public health interventions.
- Interventions targeting weight stigmatization and food literacy may mitigate the negative impact of weight stigma on eating behaviours.

Abstract citation ID: ckae144.1537
Disparities in Breastfeeding Patterns Persist Despite Improved Rates: Findings from Irish COSI R6

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Background: Breastfeeding is crucial for reducing childhood obesity, recommended exclusively for 6 months by World Health Organisation (WHO). Previous reports have highlighted disparities in breastfeeding patterns between Irish and non-Irish mothers. The Irish Childhood Obesity Surveillance Initiative (COSI) family survey offers insights into breastfeeding rates and patterns in Ireland and their differences between Irish and non-Irish mothers.

Aims: This study aims to compare the breastfeeding rates in Ireland between COSI Round 6 (R6) and COSI R5, elucidating the differences between Irish and non-Irish mothers. Additionally, it aims to establish the association between breastfeeding pattern and socioeconomic factors involved in the Irish households.

Methods: Parents of 1st and 2nd class children (mean age 7) from 121 sentinel schools invited to participate in the family survey, returned it by post or online using Lime Survey. Ethical approval was secured for COSI R6, with consent from families. Data on breastfeeding rates and pattern were collected, anonymised, and analysed using SPSS version 29.

Results: Around 88% of respondents were mothers. The number of children breastfed for at least a month increased in R6 (55.7%) compared to R5 (45.6%). The mean duration of exclusive breastfeeding increased to 5.86 months in R6 from 4.91 months in R5, in line with WHO recommendations. Significant disparities were found in breastfeeding patterns, with higher rates among non-Irish mothers (67.8%) compared to Irish mothers (52.6%) ($p < 0.001$). Linear regression showed a significant association between breastfeeding duration and maternal birth country. Irish mothers exhibited a negative coefficient ($b1 = -2.442$; 95% CI -4.1 to -0.8; $p = 0.004$), suggesting shorter breastfeeding durations compared to non-Irish mothers.

Conclusions: Breastfeeding rates improved in COSI R6 compared to R5. There are significant disparities in breastfeeding pattern between Irish and non-Irish mothers.

Key messages:

- Improved breastfeeding rates indicate good feeding practices in Ireland.
- Targeted interventions and policies are necessary to address the disparities between Irish and non-Irish mothers in breastfeeding patterns.

Abstract citation ID: ckae144.1538
SustentAÇÃO: E-learning training on food sustainability for teachers in the Lisbon Metropolitan Area

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Background: It is essential to address food sustainability (FS) within the school community to enhance both public and environmental health. In Portugal, in the scope of AML Alimenta, teachers' training on FS was identified as a priority. Therefore, local partners along with academia developed, implemented, monitored, and evaluated the SustentAÇÃO.

Objectives: SustentAÇÃO aimed to empower school teachers in the Lisbon Metropolitan Area to teach students between 6 and 14 years old on FS. The program consisted of 10 hours of asynchronous online learning (MoodleTM), structured in 4 modules, and 10 hours of autonomous learning (5 students' educational sessions), offering autonomy and flexible time management. The contents were adapted for different age groups. The teacher's performance was monitored and evaluated continuously. A process evaluation was conducted for both teachers and students.

Results: Of the 79 teachers enrolled, 47% completed the program. Teachers' performance (0-20) on the 4 evaluation questionnaires was on average 17,9±3,13. Most teachers found the program benefited their work (94%) and considered it essential for enhancing student's knowledge (98%). Considering overall satisfaction, 85% of teachers were satisfied or very satisfied with the training and 91% would recommend it to their colleagues. Additionally, 86% of students enjoyed the activities delivered, 76% considered that they were wasting less food, and 78% believed they had improved their ability to make healthier and more sustainable food choices.

Conclusions: Through a collaborative work between local partners and academia, an innovative e-learning training programme on FS was developed, implemented, monitored, and evaluated, responding to the local needs identified. SustentAÇÃO complies with national education guidelines and contributes to the sustainable development goals agenda.

Key messages:

- SustentAÇÃO E-learning training highlights the importance of collaborative work, based on an initial assessment to target local needs.
- SustentAÇÃO E-learning training improve teachers' knowledge on FS and benefit their students.

Abstract citation ID: ckae144.1539
Diets, ergogenic supplements, and microbiota in professional and non-professional athletes

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Background: Regular physical activity has significant health benefits and can help prevent and manage non-communicable diseases. Intense exercise during training requires diet modulation to support health and performance. Anaerobic sports require high-protein diets, while aerobic sports prefer high-carbohydrate diets. Two-thirds of adult athletes take dietary supplements, and non-professional athletes also use supplements to enhance their appearance. However, dietary stress and imbalanced use of supplements leads the body to different diseases like gastrointestinal diseases and even multifactorial diseases e.g. cancer, cardiovascular diseases, and neurodegenerative diseases. Depending on the specific nutritional intake, supplementations, types of exercises the microbiota can be influenced positively or negatively. A systematic review meta-analysis and a pilot study were conducted to investigate the role of diet and supplementation about the microbial composition of the gut, under different types and intensities of physical activities.

Methods: The systematic review and meta-analysis were conducted according to the PRISMA guidelines, and the protocol was registered in PROSPERO (Number CRD42024500826). In a pilot study gut microbiota (16S amplicon sequencing), anthropometric data, and information on diet and supplementation, physical activity and sport habits were collected in a sample including professional and non-professional athletes.

Results: Out of 1318 studies, only 9 met the criteria for inclusion in the meta-analysis. The pilot study's meta-regression analysis and microbiota analysis highlight the role of physical activity type in changing the Bacillota/Bacteroidota ratio ($p = 0.001$).

Conclusions: As gut training becomes more popular among athletes, it is necessary to map interactions between microbiota and different personalized diets, physical activities, and the most popular ergogenic supplements to enhance performance and athletic wellness

Key messages:

- The microbiome can be influenced positively or negatively by the specific dietary intake, types of physical activities and ergogenic supplementations.
- To map interactions between microbiota and different diets, physical activities, and popular ergogenic supplements is needed to design new strategies to enhance performance and athletic wellness.

Abstract citation ID: ckae144.1540
Compliance of eating model of individuals with metabolic syndrome with Bulgarian dietary guidelines

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Background: The incidence of metabolic syndrome progressively increases among the urban population of Europe. About 1/3 of the Bulgarian adults have metabolic syndrome. Changing the dietary pattern can be a modern approach to control it. The aim of the study is to investigate the eating model of people with metabolic syndrome according to the Bulgarian dietary guidelines.

Methods: Two hundred individuals with metabolic syndrome aged 54.6±10.5 y. were randomly selected from general practitioners' practices in Pleven region, Bulgaria. A Food Frequency Questionnaire method was applied to assess the eating pattern of the respondents. The frequency of food consumption of different foods was compared with the dietary guidelines for the Bulgarian population over 18 years of age. Data were processed with IBM SPSS v. 25.

Results: Grain consumption met the recommendations in almost all respondents. Only 29% consumed fresh fruits and 42% had intake of milk and milk products according to the requirements. Women ate more fresh vegetables and fruits and dairy products than men ($p = 0{,}032$). Risk meat consumption, 2-4 times a week, was found: men preferring more red meat (45%) and women - chicken and poultry (56%). Fish consumption met recommendation (once a week) in only 14.7% of the respondents. The food intake of eggs, vegetables, legumes and nuts were low. The preferred oils were sunflower and olive (once a day by 86% and 15% respectively), and butter (21% - 2-4 times a week). The intake of table salt corresponds to the recommendations in two thirds of the participants. One third consumed confectionery every day. Half did not drink alcohol, but 16% used concentrates once a day.

Conclusions: Foods that increase the nutritional risk for the development of metabolic syndrome and type 2 diabetes - high consumption of confectionery and red meat, low consumption of vegetables, fish and legumes were found. Unbalanced eating model requires new public initiatives to prevent metabolic syndrome.

Key messages:

- Men with metabolic syndrome have a higher consumption of unhealthy foods than women.
- Modern Bulgarian dietary guidelines are an important tool for prevention of metabolic syndrome.

Abstract citation ID: ckae144.1541
Mediterranean diet adherence and food waste among university students

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Introduction: The Mediterranean diet (MD) is widely acknowledged as both a nutritious and sustainable dietary option. Growing research indicates that dietary habits can impact the amount of food waste produced. The aim of the study was to assess the correlation between adherence to the MD and food waste behavior among university students.

Methods: A cross-sectional study employing a validated, anonymous, online questionnaire was conducted among students at the University of Milan. Food waste was measured using the Italian version of the Household Food Waste Behavior (HFWB) questionnaire, while adherence to the MD was assessed through the Medi-Lite questionnaire. The questionnaire was developed in Microsoft Forms. Data were collected between July and October 2023. Responses to the HFWB were scored from 1 for disagreeing responses to 7 for agreeing resposes. Pearson correlation (ρ) between MD adherence and anti-waste behavior, stratified by gender and for the overall population was calculated.

Results: A total of 2,617 students (70% females, age 18-23 years 52%) completed the questionnaire. The average MD adherence score was 10.2 (± 2.2), with 65% of the sample being adherent to the MD. MD score was higher among female (10.4), compared to males (10.1, $p < 0.001$). Females show a more anti-waste behavior (score=5.3± 0.8) compared to males (score=5.2±0.7, $p < 0.001$). MD adherence statistically significant correlated with anti-waste behavior in the overall sample (ρ = 0.27; 95% CI 0.24-0.31, $p < 0.001$) and within each gender group (Females: ρ = 0.27; 95% CI 0.22-0.35, $p < 0.001$; Male: (ρ = 0.28; 95% CI 0.22-0.35, $p < 0.001$)

Conclusions: This study provides evidence of the weak, positive correlation between adherence to the MD and household food waste behavior. Advocating for the MD could enhance health while simultaneously lowering food waste levels, which may have beneficial effects on environmental sustainability and the management of food resources.

Key messages:

- Adherence to the Mediterranean diet linked to lower food waste among university students.
- Mediterranean diet promotes health and less waste, aiding environmental sustainability.

Abstract citation ID: ckae144.1542
Healthy lifestyle promotion project among healthcare workers

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Background: The psychosocial risks generated from difficult work conditions are damaging not only for the workers' health and safety, but also have a huge impact on the organization and management efficiency.

Description: Some of the primary challenges that health workers face are demanding schedules and stressful shift patterns which lead to higher levels of worker burnout. Ensuring the well-being of healthcare staff is crucial not only for the individual workers, but it also brings important lessons to the community creating an environment built on a culture of health.

Results: In the past year, the Hospital of Cittadella (Province of Padua) has launched a set of programmes structured to help the staff make better lifestyle choices that affect not only their personal life but also create a more sustainable work environment. One of the projects involved various meetings with a Physical Medicine-Rehabilitation physician, a physical therapist, an Occupational Medicine physician and a medical yoga teacher. The encounters, attended by nearly 10% of the hospital staff, were aimed to help healthcare workers create a more balanced lifestyle and to implement physical activity and posture exercises in their daily routine. Four nutrition classes were also organized with the help of a nutritional biologist. The aim of this course was to show the basics of healthy diets supported by scientific data and guide the participants towards realistic and healthy meal plans.

Lessons: In conclusion, increasing the general wellbeing within the healthcare context is not an easy task, especially when organizational circumstances like staff reduction are being faced. These projects represent a small step towards facing these difficulties. It is important to note that the motivation, collaboration, inclusivity, flexibility and reliance are all elements that contribute to better mental and physical health of the healthcare staff which is crucial on an individual, organizational and societal level.

Key messages:

- Increasing personal well being amongst healthcare workers can help create a more sustainable work environment.
- A healthy work environment is crucial for a better functioning organization.

Abstract citation ID: ckae144.1543
Exploring the multiple dimensions of perceived food access in the local food environment

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Persons in socioeconomically disadvantaged situations (PSEDs) are more susceptible and disproportionally exposed to unhealthy food environments, resulting in poorer dietary outcomes. Food access plays an important role within the wider food environment. This qualitative paper explores the context-specific relationships between the dimensions of perceived food access within the local food environment among PSEDS. 23 participants were recruited through purposeful convenience sampling until data saturation was achieved in two municipalities in Flanders, Belgium. Utilizing the photovoice and photo-elicitation method, participants expressed their perceptions of food access within their local food environment and its role in their eating behaviour, both individually ($n = 16$) and in group ($n = 7$). Applying the access framework to our analysis, the dimensions of perceived food access among PSEDS were divided into the personal (acceptability and convenience), perceived external (accommodation and desirability) or both personal and perceived external (awareness, availability, accessibility and affordability) domain. Our results suggest that awareness (e.g. of local opportunities available) precedes the other dimensions and that affordability is related to all dimensions among PSEDs. This study underscores the importance of perceived food access in healthy eating among PSEDS. The identified food access dimensions can inform policy, urban planning and community-based interventions to promote equitable access to healthy food.

Key messages:

- Understanding perceived food access is essential to identify ways in which inequalities in food access can be addressed.
- Perceived food access interacts between external and personal domains.

Abstract citation ID: ckae144.1544
Influence of vegetable knowledge in preschooler's vegetable consumption: Veggies4myHeart project

Sara Simões Dias

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Background: Vegetable consumption among children is below recommended. Food rejection, especially vegetables, is common in preschool-aged children. Impoverished food knowledge is associated with this rejection. The Veggies4myHeart project aims to promote vegetable consumption and knowledge among preschoolers'. This study assesses the project's effectiveness in increasing vegetable knowledge and consumption and whether increased knowledge influences vegetable consumption.

Methods: Veggies4myHeart is a prospective longitudinal study with children 2-6 years old attending preschools. Two preschools participated in a five-week intervention in the 2023/24 academic year. A distinctive pedagogical tool was tested in each preschool: a storybook and a digital game. Knowledge and vegetable consumption were assessed before and after the intervention. Knowledge was evaluated through a questionnaire with taxonomic categorization. Consumption was assessed by recording the portions of eight vegetables (carrot, lettuce, red cabbage, cucumber, tomato, onion, beetroot, and red bell pepper). Wilcoxon test was applied to compare vegetable knowledge and consumption before and after the intervention. Spearman's correlation was used to examine the association between knowledge and vegetable consumption before and after the intervention.

Results: 98 children (55.1% female, mean age 4.15 ± 0.868 years) participated. Statistically significant increases in both knowledge and total vegetable consumption were observed post-intervention in both preschools ($p < 0.001$). A moderate correlation of 0.412 ($p = 0.013$) in the storybook group post-intervention suggests that increased knowledge may contribute to increased vegetable consumption.

Conclusions: This study demonstrates the potential of the Veggies4myHeart project as an effective strategy to promote knowledge about vegetables among preschool children, highlighting the critical role of educational interventions in promoting healthier dietary patterns.

Key messages:

- To increase vegetable knowledge may lead to higher consumption in preschool children.
- Veggies4myHeart demonstrated its effectiveness as an educational project for preschool children.

Abstract citation ID: ckae144.1545
Lunchbox content and dietary outcomes of Dutch primary school children explored by sociodemographics

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Background: Most children fail to meet recommended guidelines for a healthy diet. Children living in low socioeconomic areas are less likely to have healthy eating behaviours. In this study we investigated the food Dutch primary school children bring from home, and their dietary, health and school related outcomes explored by sociodemographics.

Methods: 5 primary schools, with high deprivation scores and a high percentage of overweight, have been included in this study (ClinicalTrials.gov NCT06058325). With observations in September 2023 we mapped the content of lunchboxes, including snacks, of children. Questionnaires for all parents and children in grade 5-8 focused on dietary and health outcomes of children and perceived class factors. Preliminary baseline data were analysed using descriptive statistics. Exploratory analyses will be conducted to show differences by sociodemographics (e.g. age, sex, parental financial stress).

Results: 297 lunchboxes were observed, 98.7% contained sandwiches, half being brown bread. Most children brought fruit from home for either lunch or morning snack, 13.8% not at all. 21.9% brought vegetables. 135 children completed the questionnaire: 43.0% boys, mean age 9.3 years old (SD 1.12). Children ate fruit and vegetables on an average of 5.9 (SD 1.69) and 4.9 (SD 2.23) days a week. Whereas 80% of children eats fruit every day at school, only 20% of children eats vegetables every day at school. Most children perceived their health as good (89.3%) and felt happy (89.6%). On a scale of 1 (low) to 5 (high), they rated concentration, social climate and comfort in class an average of 3.8 (SD 1.05), 4.3 (SD 1.07) and 4.3 (SD 0.92) respectively.

Conclusions: Lunchboxes of Dutch primary school children mainly contain sandwiches. Whereas most children eat fruit at school, the majority of children do not eat vegetables at school. A healthy school lunch might increase vegetable consumption of children and could affect health and school related outcomes.

Key messages:

- Most Dutch primary school children eat sandwiches during lunch at school, but in half of the cases this is not brown bread as recommended by nutritional guidelines.
- Most Dutch primary school children bring fruit to eat as snack or lunch, but no vegetables to eat at school. The majority also self-reported the lack of eating vegetables at school on a daily basis.

Abstract citation ID: ckae144.1546
Focus on food instead of nutrients improves consumers' understanding of meals' nutrition quality

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Background: Nowadays, most of the information directed to consumers focuses on nutrients, ignoring the impact of the interactions between different foods, origin or degree of processing. The methodologies currently applied have led consumers to confuse foods with nutrients, meat and fish are often referred to as "proteins", grains and potatoes are referred to as "carbohydrates, forgetting that these foods are source of other nutrients, such as fat, proteins or fibre. Furthermore, its efficacy is compromised by the difficulties of reading labels among consumers.

Objectives: This study aimed to evaluate the understanding about food and nutritional information presented in menus to consumers, comparing the nutrient-focused approach (Nutrition Declaration) and the new food-focused approach (infographic - based on the Portuguese food Guide, from previous research).

Methods: 4 different meals were created, 2 balanced and complete in terms of food and nutrient content and 2 unbalanced and uncomplete. A questionnaire was applied, evaluating the understanding of the balance and healthiness of the meals, using the two approaches (nutrient-focused and food-focused). The order of presentation of the approaches and the meals was randomized for all participants. The questionnaire was distributed online through snowball sampling.

Results: 221 individuals participated, mostly female (67%), aged 25 to 54 years old. Evaluation of meals ("how balanced" and "how complete" the meal is) using the Nutrition Declaration did not allow to distinguish the quality of meals (Mb = 3,8;Mc=4,0), in opposite the Infographic returned significant differences between M1/M2 (Mb = 4,3;Mc=4,4) and M3/M4 (Mb = 2,5;Mc=2,6) ($p < 0.01$) allowing consumers to perceive differences between meals. The percentage of consumers that respond "I don't know" to these questions decreased using the food-focused tool (13% vs 2%).

Conclusions: The food-focused approach allows for better understanding of meals' nutritional balance.

Key messages:

- The infographic provides more information about the daily food portions and how different meals and types of food contribute for complying food and nutritional recommendations.
- The use of the infographic in menus, recipes, cookbooks and clinical advice may improve better food choices and a healthier lifestyle.

Abstract citation ID: ckae144.1547
Double-sided effect of selenium on blood lipids: A dose-response meta-analysis

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Background: Selenium, a trace element with both nutritional and toxicological properties, has been suggested to increase cardiovascular risk, particularly concerning diabetes and blood pressure levels. However, the impact of selenium exposure on the risk of dyslipidemia remains uncertain. This meta-analysis explored the shape of the relation between selenium exposure and its effects on lipid profiles in the most relevant experimental human studies, randomized controlled trials (RCTs).

Materials and methods: The review was registered in PROSPERO (ID: CRD42022380432). Through a bibliographic search conducted on PubMed, Web of Science, Embase, and the Cochrane Library, we identified RCTs investigating the impact of selenium supplementation on lipid profile. We then compared the results between intervention and control groups and, whenever possible, evaluated the non-linear relationship using a dose-response approach.

Results: We could include 26 RCTs involving different populations, i.e. healthy individuals, pregnant women, and subjects with health conditions such as cardiovascular diseases and Alzheimer's dementia. Study endpoints were levels of total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, and triglycerides. Our dose-response analysis indicated that selenium supplementation exceeding 200 μg/day adversely affected total cholesterol, HDL, and triglyceride levels. Hence, a threshold for such a detrimental effect of selenium was observed on total and HDL cholesterol and triglycerides, while opposite and inconsistent results emerged for levels below 200 μg/day and for LDL-cholesterol. Blood selenium levels at the end of the studies were positively associated with adverse effects on all endpoints.

Conclusions: This first dose-response meta-analysis of the effects of selenium on blood lipids highlights the potentially adverse effects of this trace element, in the amount and the chemical forms used in the trials.

Key messages:

- Elevated selenium levels correlated with adverse effects on lipid profile.
- Selenium doses exceeding 200 μg/day showed adverse effects on total and HDL cholesterol and triglycerides levels.

Abstract citation ID: ckae144.1548
Evaluation of front-of-pack labeling's impact on unhealthy food consumption in Israeli households

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Background: In 2020, Israel introduced front-of-pack labeling (FOPL), marking unhealthy foods high in sugar/salt/saturated fat in red and Mediterranean diet-conforming foods in green, aiming to facilitate healthy choices through clear nutrition information.

Methods: Two cross-sectional telephone surveys assessed food purchasing, red/green food consumption frequency, label exposure, and perceived impact before labeling (944 households, 2019) and 3 years post-implementation (500 households, 2023).

Results: Over 90% of respondents in 2023 reported seeing red labels on packages. Nearly 70% checked for red labels when shopping, vs. only 48% who examined the full Nutrition Facts panel on the back of the package. 60% reported preferring unlabeled alternatives within unhealthy categories. Although 50% reported that compared to the period before the labeling, they purchased fewer red-labeled products, a significant decrease in purchasing rates between timepoints was found only for 2 out of 11 unhealthy food categories-sugary drinks (which during 2022 were also taxed by sugar content) and salty snacks. At both timepoints, rates of purchasing and consumption frequency of unhealthy foods were higher among households with children, compared to other households. Multivariate analysis showed that having children under 18, lower education and bigger household size predicted a higher overall unhealthy consumption score. Red label checking was associated with better scores.

Conclusions: FOPL raised awareness and shows potential for reducing unhealthy consumption, especially when combined with policies like sugar taxation. Their impact on reducing purchases of nutritionally valueless foods (snacks/sugary drinks) is highly valuable. However, red-labeled food consumption remained high among households with children, a strong predictor of higher unhealthy consumption scores. Continued label promotion, child-targeted interventions, and product reformulation incentives are recommended.

Key messages:

- FOPL shows potential of enhancing healthy choices especially when combined with supportive policies.
- Results regarding households with children highlight the need for continued promotion, child-targeted interventions, and product reformulation incentives for impacting long-term habits.

Abstract citation ID: ckae144.1549
When toxicity is not just from gluten: a systematic review on financial toxicity and celiac disease

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Background: With an incidence of up to ∼2% globally, Celiac Disease (CD) is probably one of the most life-long common chronic conditions. Although 'Financial toxicity' (FT) has been mainly linked to oncology, significant financial burdens have been described across all healthcare domains, even in CD and to the unexpected economic effort resulting from illness and the need for treatments. This study aimed to investigate the potential relationship between CD and FT.

Methods: A systematic literature review was performed according to the PRISMA Statement 2020 guidelines. The search query queried the following databases: PubMed, Scopus, CINAHL and APA PsycInfo. No time and study design limits were included.

Results: 105 articles were found, and 25 were included in the review. The main results revealed that CD impacts physical health and imposes a significant financial burden on patients and their families. FT in CD is primarily due to the high costs of diagnosis, lifestyle changes, and expenses for gluten-free foods. Several studies highlighted the scarce adherence to the therapeutic diet due to the cost of food and poor acceptance of CD. Furthermore, since 2007, there has

been increased attention to the difficulty of finding gluten-free products and their expensive fees. All these aspects, even for low-income countries, were faced differently globally, as documented by the heterogeneity of government subsidy policies highlighting the health inequity.

Conclusions: Considering the prevalence, a comprehensive health assessment with a global health approach should consider clinical, social, and economic aspects. This regard could improve the quality of life for CD patients and ensure fair and personalised access to care, regardless of their geographical location or financial situation. This review has highlighted the fragmentation of resources available internationally, underlining the relevance from a public health point of view.

Key messages:

- Celiac Disease is one of the most common life-long disorders, and financial toxicity is an aspect that should be taken into account also from a public health point of view to ensure health equity.
- The gluten-free diet represents an important therapeutic choice in CD; the related expensive fees could increase scarce adherence and worse health outcomes.

Abstract citation ID: ckae144.1550
Chrono-nutrition and post-bariatric weight loss: insights from the Portuguese ChronoWise cohort

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Background: Post-bariatric weight loss varies substantially, and a large proportion of patients respond poorly. The literature highlights the importance of chrono-nutrition for weight regulation. This study aims to explore the chrono-related factors associated with poorer weight loss.

Methods: This study was conducted within the ChronoWise project, an ongoing prospective cohort study following patients undergoing bariatric surgery at the Santo António Local Health Unit, Porto. The sample included patients evaluated at both pre-surgery and 3 months post-surgery. Baseline information on meal timing was gathered through the Chrononutrition Profile-Questionnaire. The eating midpoint (midpoint between first and last meal) was calculated for work and free days. Chronotype was determined using the Munich Chronotype Questionnaire. Weight loss was expressed as the percent of total weight loss ($\%TWL = [(\text{initial weight} - \text{current weight})/(\text{initial weight})]\times 100$). Chrono-related variables were compared according to %TWL (dichotomized by the median) using the Mann-Whitney test.

Results: Sixty patients were included (72% female; mean age 45± 11.8). The mean baseline BMI was 44±5.6 kg/m2, which decreased to 35±5.3 kg/m2 at 3 months post-surgery, resulting in an average 20± 3.9 %TWL. On free days, participants with lower %TWL tend to do the first meal later in the day (9h45 vs. 9h10, p=0.367), and later lunch on workdays (12h45 vs 12h30, p=0.531) compared with individuals with higher %TWL. Lower %TWL is typically observed in individuals having later eating midpoints (15h00 vs. 14h15 for workdays, p=0.011; 15h07 vs. 14h44 for free days, p=0.205). A later chronotype (3h37 vs 3h30, p=0.347) was also linked with poorer weight loss.

Conclusions: Eating later during the day and later chronotype may contribute to poorer post-bariatric weight loss. Funding: This work was supported by FCT - Fundação para a Ciência e Tecnologia [2021.01096.CEECIND, UIDB/04750/2020,LA/P/0064/2020&SGITR 2023/EPIUnit].

Key messages:

- Recognizing meal timing as a modifiable lifestyle factor may optimize current approaches by aligning food intake with circadian clock.
- A later chronotype, i.e. a behavioural expression of an individual's internal circadian clock system as a preference for eveningness or later sleep timing, may negatively influence weight loss.

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Characterising users of community-based interventions designed to improve the food practices

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Promoting affordable ways to help low-income families improve dietary behaviours and achieve a healthy weight represents a priority for UK public health policy. For such interventions to be appropriately tailored and targeted, it is important to better understand the intended recipients. The present study aimed to assess the dietary practices and psychosocial characteristics of users of Aberdeen City community-based interventions (e.g., food banks, pantries, social cafés) designed to support low-income communities in accessing food and engaging in healthier food practices. From January to June 2023, a cross-sectional survey was conducted employing convenience sampling among users of community-based interventions ($N = 105$; 73 females). The questionnaire assessed diet quality (SFFQ), household food insecurity (HFIAS), mental health (PHQ-4), well-being (Cantril Ladder), intention and self-efficacy toward healthy eating, and sociodemographic variables. Data were analysed using descriptive statistics, group comparisons, correlations, and regression analyses. Results indicated that community-based food provision users are highly vulnerable to food insecurity. Among participants, 53.3% reported severe food insecurity, and 18.1% reported moderate levels. Service users' diets were high in discretionary foods and drinks (26% consume daily >1 portion of fizzy juice, 18.2% sweets, 16.7% crisps vs. 11.5% fruits and 10.6% vegetables). The mean dietary quality score was 9.48 ($SD = 1.90$) from a possible 15. Higher food insecurity and lower diet quality were significantly associated with greater mental distress ($r=.41$, $p<.001$; $r=-.287$, $p=.005$;) and poorer well-being ($r=-.460$, $p<.001$; $r=.19$, $p=.049$;). This study is part of a larger project aiming to optimise community-based dietary interventions for low-income populations. The results provide a clearer picture of the intended beneficiaries of such interventions and highlight user needs that can be prioritised in optimisation efforts.

Key messages:

- Community-based food provision users are highly vulnerable to food insecurity and related negative health experiences.

- The burden of poor diet and its associated health consequences disproportionately affect those living in the most deprived communities.

Abstract citation ID: ckae144.1552
Nutrition of children up to one year of age what public health topic

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Background: Nutrition is one of the most important factors for a person that affects the quality and length of life. Nutrition has a fundamental influence on the maintenance of health or the development of disease and participates in the correct growth and development of an individual. Nutrition is especially important in the early stages of life, when a child's organism develops dramatically. Mothers have the greatest influence on a child's nutrition, and therefore it is advisable to educate them appropriately and also educate them early, from child birth or before. And early nutrition is provided through breastfeeding.

Objectives: To improve the knowledge of healthcare workers in the field of breastfeeding and nutrition of children up to one year of age. To strengthen the breastfeeding skills of mothers. To motivate healthcare workers to educate mothers in maternity wards and GP offices.

Results: Using a questionnaire, we analyzed the knowledge of 716 mothers of children under two years of age. 91 % of female respondents knew that the child should be breastfed according to his/her needs. Only 66 % of women were educated and informed about the importance and technique of breastfeeding. Educational material was prepared and distributed for midwives, nurses and doctors on breastfeeding and feeding children up to one year of age.

Conclusions: The level of awareness of health professionals about breastfeeding and nutrition is still insufficient. There is a need to continue to educate and support healthcare workers in this area and to motivate them in providing information to mothers.

Key messages:

- Breastfeeding and feeding children up to one year of age are important for a child's health.
- The advisory activity of healthcare workers is key to improving public health. Health workers should help mothers not only with advice but also with practical help with breastfeeding.

Abstract citation ID: ckae144.1553
The health profile of Lithuanian beekeepers and use of bee products for health purposes

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Background: There is little research about the health profile and attitude of beekeepers themselves who are the main suppliers of apitherapy products to the general public. The study aims to describe the health profile of Lithuanian bee keepers and identify their attitudes towards use of bee products for health purposes.

Methods: A cross-sectional survey was carried out from November 2023 to February 2024 among beekeepers in Lithuania. A representative sample of $N = 369$ (5% margin of error) has been enrolled in the study. A mixed-model approach was used for data collection. Research instrument consisted of a two-part questionnaire covering socio-demographic variables and questions on the use of bee products.

Results: 369 respondents participated in the study: 73% ($n = 270$) males and 27% ($n = 99$) of females. The mean age was 57.8 years ($SD = 14.4$). Beekeepers assessed their health as good and only 2% assessed it as bad, while the Lithuanian rate is 12%. 95% of the respondents used bee products for health purposes, 5% did not use at all. Large beekeepers (>100 beehives) were more likely not to choose bee products ($p < 0.001$). No correlation was found between chronic diseases and consumption of bee products, except for diabetes mellitus ($p = 0.001$). The most common reasons for choosing apitherapy products included respiratory (62%), digestive (31%) diseases, immunity boosting (77%), dermatological conditions (53%). Propolis was pointed out in the survey as being used by 74%. Elder beekeepers (>65 years) were found to be more likely to use propolis ($p < 0.001$). They were also more likely to use it for prevention ($p < 0.001$) and in case of toothache ($p = 0.001$).

Conclusions: The majority of beekeepers use bee products for health purposes. The most common reasons for consuming honey and other bee products are immunity boosting and colds. It was found that beekeepers over 65 years of age are more likely to use propolis for prevention and toothache treatment.

Key messages:

- Although the consumption of bee products is high among beekeepers, elder generation and owners of smaller apiaries are more likely to use bee products for health purposes.
- Chronic diseases are not associated with consumption of bee products, except for beekeepers with diabetes mellitus who do not consume it.

Abstract citation ID: ckae144.1554
Food insecurity and fruit and vegetable consumption in Belgium

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Background: Food insecurity is a substantial and growing concern in many high-income countries. Yet, representative data on the extent of the issue in the general Belgian population is lacking. This study aims to assess the extent of food insecurity in Belgium, identify those at risk of food insecurity, and explore the relationship between food insecurity and fruit and vegetable consumption.

Methods: We used data from the Belgian National Food Consumption Survey 2022-2023, a representative sample of the Belgian population aged 3 years and older ($n = 2{,}800$). Food insecurity was assessed using the 3 screening questions derived from the USDA Household Food Security Survey Module. Frequencies of fruit and vegetable consumption were obtained from a food propensity questionnaire. Prevalence of food insecurity was estimated using post-stratification weights. Logistic regression models were used to determine the association between frequency of fruit and vegetable consumption and food insecurity, adjusting for gender, household composition, educational attainment, and income.

Results: Preliminary results indicate that 12.6% of population experienced some form of food insecurity. Those who experienced food insecurity consumed fruit and vegetables less frequently than others, after adjustment for other socio-economic variables (ORs$>$4.00, p-values$>$0.05).

Conclusions: This study confirms that food insecurity is a substantial concern in Belgium. Food insecurity should be routinely monitored at the national level. Experiencing food insecurity appears to be negatively associated with the consumption of healthy foods such as fruits and vegetables and thus with the overall quality of the diet. Further research should be supported to identify effective strategies to reduce food insecurity in Belgium. Policy attention should be given to ensure financial accessibility to healthy foods and their attractiveness, especially for people experiencing food insecurity.

Key messages:

- Food insecurity is an major concern in Belgium and should be routinely monitored.
- Financial accessibility to healthy foods should be improved, especially for those facing food insecurity.

Abstract citation ID: ckae144.1555
Accuracy of body weight perception: The Case of Türkiye

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Background: Accuracy of body weight perception is defined as the extent to which an individual's self-assessment of their body weight aligns with their actual body weight. Our study evaluates the accuracy of body weight perception, an important factor in preventing and managing obesity and overweight, according to sociodemographic factors.

Methods: This study utilizes data from the nationwide cross-sectional 'Nutrition and Health Survey 2017'. The survey includes 12,266 participants who were interviewed face-to-face. Factors influencing the accuracy of body weight perception were evaluated using the chi-square test. Subsequently, the logistic regression models were constructed to assess factors that were statistically significant ($p < 0.05$).

Results: The prevalence of obesity and overweight was found to be 36.3% and 71.5%, respectively. The accuracy of body weight perception was 39.2%, underestimation was 57.0%, and overestimation was 3.8%. There was no significant difference in accuracy of body weight perception between sexes ($p = 0.94$). According to logistic regression analysis ($n = 12.168$), accuracy of body weight perception was higher among individuals who were not overweight compared to those who were overweight ($p < 0.001$, OR: 4.56, CI: 4.16-4.98), among those aged 15-44 compared to those aged 45 and over ($p < 0.001$, OR: 1.47, CI: 1.35-1.60), among those with high school and higher education compared to those with middle school education or less ($p < 0.001$, OR: 1.43, CI: 1.31-1.56), among unmarried individuals compared to married ones ($p = 0.011$, OR: 1.12, CI: 1.03-1.23), and in individuals with poor income status compared to good ($p = 0.005$, OR: 1.13, CI: 1.04-1.22).

Conclusions: In health promotion programs aiming to perceive body weight accurately, priority should be given to people with overweight, those with low education levels, married individuals, people aged 45 and over, and individuals with low income.

Key messages:

- Accuracy of body weight perception is important in fighting obesity.
- Individuals with overweight, have a low level of education, are married, aged 45 and over, and have low income are misperceive their body weight to a greater extent.

Abstract citation ID: ckae144.1556
Perception of fatphobia and pesocentrism within medical consultation

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Background: About 42% of adults living with overweight or obesity suffer a marked pattern of stigmatization and thanks to this discrimination the risk of death has increased up to 60%.

Objectives: To identify the factors that contribute to the perception of fatphobia and pesocentrism within the first level of medical care.

Methods: A prospective cross-sectional study was carried out. Statistical analysis was performed with X2 test and 95% confidence interval (OR/CI95%).

Results: 104 participants with obesity and overweight were included. The factors associated with the perception of pesocentrism were, started eating plans before the age of 10 years (3.38/1.12-10.7); being denied consultation for being a fat person (0.27/-0.16-0.46); perceiving mistreatment by the physician regarding weight (0. 2/0.13-0.3); perceiving physical harassment by the physician (0.23/0.16-0.82); perceiving discomfort on physical examination (0.44/0.23-0.82); perceiving fat-phobic behaviors by the physician (5.45/3.24-9.16). Factors associated with perceived fatphobia were, started eating plans before the age of 10 years (4.89/1.71-14.01); being denied consultation for being a fat person (0.19/-0.08-0.44); perceiving mistreatment by the physician regarding weight (0. 07/0.04-0.15); perceiving physical harassment by the physician (0.11/0.06-0.19); perceiving discomfort on physical examination (0.28/0.11-0.67); perceiving weight-centered behaviors by the physician (0.05/0.01-0.23). All with p value $<$0.05.

Conclusions: Factors such as the beginning of eating plans in childhood, refusal of consultation for being a fat person, mistreatment regarding weight, physical harassment by the physician, discomfort during physical examination are associated with and favor the perception of both fat-phobia and weight-centeredness in the medical consultation.

Key messages:

- It is of vital importance to know more about the concepts of fatphobia and pesocentrism, in order to promote non-discrimination around them.
- Fatphobia and pesocentrism are still little known issues within the medical community, the perception of them is due to discriminatory behaviors that have been normalized.

DK. Poster display: Health assessments: impact, technology

Abstract citation ID: ckae144.1557
Revealed and stated preferences for sharing of patient-reported data in Austria

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Objectives: Routine collection of health data is essential for creating sustainable, efficient, and equitable health systems. While administrative health data are collected automatically, successful routine collection of patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs) depends on voluntary participation. The aim of this study is to investigate how to increase participation in routine patient-reported data collection.

Methods: This mixed methods study used representative survey data from the Austrian population aged 18-70 ($N = 1260$) and 15 semi-structured narrative interviews with citizens and health data experts collected in 2024. Survey respondents were shown examples of PREMs and PROMs and indicated their willingness to share them, depending on the recipient and purpose. Interviewees answered the same questions while providing insight into their decision-making process, which was analyzed using thematic analysis. Wilcoxon rank sum tests were used to assess differences in willingness to share across recipients and data collection purposes.

Results: Survey respondents were more willing to share PREMs than PROMs ("rather yes" vs. "rather no", $p < 0.001$). One explanation given in the interviews is that PROMs are more personal and convey sensitive information. In terms of sharing PROMs, people were most likely to share with their GP (81%) and least likely to share with private companies (7%). Facilitators for sharing identified in the interviews were improving personal care and the health system, while barriers were use for profit generation and fear of negative consequences for the person sharing.

Conclusions: The results suggest handling the collection of PROMs demands greater caution compared to PREMs. Furthermore, clearly communicating personal and societal benefits arising from the collection and analysis of self-reported health data may increase participation in routine self-reported health data collection.

Key messages:

- The collection of self-reported health data depends on voluntary participation. Clearly communicating personal and societal benefits of sharing self-reported data can motivate participation.
- Self-reported data collection is essential for sustainable and efficient health systems. Compared to PREMs, people are more reluctant to share PROMs because they contain sensitive information.

Abstract citation ID: ckae144.1558
Health Impact Assessment (HIA): a tool to drive health in all policies?

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Health Impact Assessment (HIA) is often promoted as a tool to implement 'health in all policies' and sustainable development approaches to improve health and equity outcomes. However, is this truly the case? Currently global HIA practice is variable. This paper shares learning from the development and implementation of HIA in Wales to date to understand how HIA has been, and can be, used to inform policies and decisions and reduce health inequalities. The research investigated if, and how, HIA can be used as a tool to mobilise HiAP in reality. It followed a mixed methodological approach and investigated the contribution of HIA to practically advancing HiAP viewed through the lens of Wales and internationally. Primary and secondary evidence and statistics were collected and analysed. A literature review, stakeholder interviews, online statistical questionnaires and case studies were conducted. Thematic and content analysis techniques used. Findings include the importance of conceptual considerations i.e. the perspective on health - social determinant an equity or environmental determinant driven - taken by those carrying out or commissioning a HIA; the importance of centres of expertise to learn from; and practical considerations such as the political and regulatory environment, workforce and organisational knowledge and capacity. Wales has a dedicated expert HIA Unit, an enabling political environment and has led to HIA influencing policies and plans over 20 years. It has transferrable learning for other nations and the research including the online survey has been replicated by others, led to collaborations with nations such as Portugal and contributed to the reviewed literature by providing case studies on a topics like climate change which have influenced decision makers. Tangible ways forward for policy makers, researchers and academics include the need to develop more cross collaboration and fill gaps in the evidence i.e. on institutionalisation of HIA.

Key messages:

- HIA is a excellent process to drive Health in all policies approaches.
- HIA needs an enabling environment and workforce support such as that in Wales to thrive.

Abstract citation ID: ckae144.1559
Novel R package to quantify and monetize burden of disease attributable to air pollution and noise

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Background: Ambient air pollution and noise substantially impact public health and the economy. Different methods to quantify these impacts are described in the literature.

Objectives: Within the European project BEST-COST (Burden of disease-based methods for estimating the socio-economic cost of environmental stressors), we aim to develop an open-source R package to quantify and monetise the disease burden attributable to air pollution and noise, including the impact of social inequalities.

Methods: The developed code will allow for different calculation pathways including: single baseline health data vs. age-specific estimates from life tables; relative and absolute risk; scenario comparison based on the population attributable fraction vs. population impact fraction; single-pollutant vs. correlated exposures; and outdoor vs. indoor air pollution. Moreover, the package can digest a variety of input data formats for the exposure-response function (e.g. relative risk with fixed shape vs. user-defined function) and exposure data (e.g. population-weighted mean vs. categorical distribution, spatial data). Eligible impact metrics will include morbidity incidence and prevalence, number of deaths, years of life lost, and years lived with disability. Finally, the R package will enable quantifying social inequities (using a novel multiple deprivation index) and monetising the attributable disease burden (using a state-of-the-art approach).

Results: During development, the R package will be tested in BEST-COST case studies in 5 European countries (BE, EE, FR, NO, PT), compared with existing tools, and discussed with key users in a workshop. The final R package will be available on GitHub in 2026.

Conclusions: This tool will allow the quantification and monetisation of the health impact of air pollution and noise. The R package will be a flexible programming resource that can be used as a standalone or combined with existing tools to build a more solid basis for evidence-based policy making.

Key messages:

- This open-source tool will allow the quantification and monetisation of the health impact of air pollution and noise, including the impact of social inequalities.
- The R package will be a flexible programming resource that can be used as a standalone or combined with existing tools to build a more solid basis for evidence-based policy making.

Abstract citation ID: ckae144.1560
Realising the health benefits of City Development Plan in Ireland: The process and influence of HIA

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Background: The built environment is a major determinant of health. This research examined the process of implementing a health impact assessment (HIA) of a city development plan, using HIA guidance developed by Institute of Public Health Ireland. HIA is an established approach to facilitate a Health for All Policy approach and is a practical tool used to appraise the potential health effects of a policy, programme or project prior to implementation.

Methods: This mixed methods study underpinned by action research and implementation science frameworks, explored the process and experiences of undertaking an HIA on the Cork City Development Plan (2022-2028). A total of 36 stakeholders across a variety of institutions, sectors, and including members of the public, were involved in the HIA.

Results: We found there was an appetite for HIA's use to facilitate cross sectoral working to identify, mitigate, and address health inequalities. Data derived from interviews, surveys and workshops indicate that while most stakeholders involved saw the value HIA could bring to their work, further efforts are required to realise the benefits of HIA as a decision-support tool. Barriers included lack of familiarity of HIA across sectors, and for those involved in carrying out the HIA, lack of adequate training, time and access to local data.

Conclusions: HIA can contribute to embedding a Health for All Policies approach, however, greater effort from the public health professionals is required to advocate for HIA as a tool to influence policy. Our results suggest that its practical application requires (i) intersectoral training on HIA that supports a broader understanding of the social determinants of health, (ii) knowledge of the purpose and remit of the policy, plan or programme being appraised and (iii) ensuring a broad range of relevant expertise and experience on the steering group tasked with leading the HIA.

Key messages:

- HIA can contribute to embedding a Health for All Policies approach.
- Stakeholders do see the value that HIA can bring to their work, however, further efforts are required to realise the benefits of HIA as a decision-support tool.

Abstract citation ID: ckae144.1561
Developing a community engagement toolkit for health impact assessment in Ireland

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Background: Community involvement is a core principle of Health Impact Assessment (HIA). However, current guidance for HIA published by Ireland's Institute for Public Health does not include guidelines on community engagement in HIA. As part of the project HIA-IM - 'Development of a Health Impact Assessment Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities,' a Community Engagement Toolkit was created, with the aim of providing guidance for those carrying out HIAs and engaging with community in the process. The project will implement two HIAs, on the Cork City Development Plan (2022-2028) and the national Climate Action Plan (2024). Incorporating the learnings from the first HIA, the Toolkit will be employed in the second HIA of the project.

Methods: To develop the toolkit, a literature review of community engagement in HIA was conducted, with benefits and challenges, key approaches, and case studies of HIA's gathered from grey literature and peer reviewed articles. In line with the participatory nature of HIA, a public consultation event was held, which was presented as a case study within the Toolkit.

Results: Findings from the literature review contend that engaging with community in HIA captures the lived experiences and local circumstances of the community, fostering empowerment and greater health awareness. However, many practitioners find community engagement to be practically challenging, citing factors such as time and resource constraints; with risks of consultation fatigue and raising expectations.

Conclusions: The review identified tools that have been used to mitigate these challenges and risks to facilitate meaningful community participation. These findings, along with learnings from conducting the first HIA, has informed the content of the Toolkit. Therefore, this Toolkit aims to complement national HIA guidance to centre the community voice in future HIA practice.

Key messages:

- Developing a toolkit to strengthen participatory approaches and community engagement in health impact assessment in Ireland.
- Centering the community voice in health impact assessment: the inclusion of lived experiences and local circumstances in health impact assessment practice in Ireland.

Abstract citation ID: ckae144.1562
What are the challenges in the Health Technology Assessment of genetic and genomic applications?

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Introduction: Evaluating genetic/genomic applications (GGAs) is crucial for their implementation in clinical practice but hindered by several issues, such as rapid development processes and unclear benefits. Since these challenges lack comprehensive discussion, this study aims to identify and analyze all barriers emerged in the Health Technology Assessment (HTA) of genetic/genomic tests, filling a gap in the current literature.

Methods: PubMed, Scopus and Web of Science were searched to identify studies that specifically discussed any challenge or barrier in the HTA evaluation of GGAs. No restriction was applied on evaluation aspect or study type. Challenges/barriers were then grouped into the domains outlined in the EUnetHTA Core Model. A narrative synthesis of the main findings was performed. This study was supported by the EC and MUR- PNRR-M4C2-I1.3 Project PE_00000019 'HEAL ITALIA'.

Results: 19 articles were included: one third involved experts from different countries, and about 50% were author perspectives. Articles either focused on one aspect only (37%) or were more general (47%). The most challenging domain was economic aspects (69%), followed by clinical effectiveness (47%) and social impact (42%), but issues were found in all domains. The lack of a standardized HTA approach, the paucity of evidence on clinical outcomes, the challenges in capturing all health benefits, and the difficulties in identifying the healthcare pathways triggered by the test were consistently mentioned across the HTA domains.

Conclusions: Our study systematically summarized challenges in the HTA evaluation of GGAS, providing a thorough analysis and categorization of these issues. Various challenges surfaced, notably related to the identification of costs, as well as clinical and nonclinical benefits. There is a need for exhaustive discussion on potential solutions to facilitate the assessment process of these technologies to ultimately foster their implementation in clinical practice.

Key messages:

- There are multiple challenges in the HTA evaluation of genetic and genomic tests in clinical practice that impact every HTA domain.
- There is a need for concrete efforts in generating further evidence in relation to the definition of costs and benefits of the healthcare pathways triggered by genetic/genomic applications.

Abstract citation ID: ckae144.1563
The efficacy of vaccination against respiratory syncytial virus across priority population subgroups

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Background: Respiratory syncytial virus (RSV) has recently become a vaccine-preventable disease as two vaccines have been approved for use and a third one is likely to become available by the end of the year. National Immunization Technical Advisory Groups as well as scientific societies across the world have issued recommendations on RSV vaccination that differ in respect to the identification of the target group. The latter has been identified in respect to age or underlying medical conditions mostly according to epidemiological data. In order to strengthen the evidence basis for future decisions, we performed a stratified meta-analysis of efficacy data considering all the three RSV vaccines currently or soon available.

Methods: We searched Randomized Controlled Trials (RCTs) assessing the efficacy of RSV vaccines in terms of reduction of RSV-related Lower Respiratory Tract Infection (LRTI). The research was conducted on PubMed and clinicaltrial.gov. The extraction of relevant data was stratified by pre-defined age groups (60-69, 70-79, 80+) and presence of underlying conditions increasing the risk for RSV.

Results: Three RCTs, one for each of the three vaccines, were considered for the quantitative analysis. Considering the overall 60+ population, the efficacy of RSV vaccines was 78% (95%CI 76-86%) in preventing LRTI. Considering the different age groups (60-69, 70-79, 80+), efficacy was respectively 72% (95%CI 53-84%), 90% (95%CI 66-97%) and 57% (95%CI 0-93%). The efficacy in healthy people and those with at least one underlying condition was similar, namely 77% (95%CI 60-87%) and 78% (95%CI 50-90%).

Conclusions: The available evidence shows the efficacy of RSV vaccines in reducing LRTI with no differences across different priority groups. Further studies may contribute to better understanding if the efficacy may change according to individual characteristics, that could be highly relevant in the decision-making process.

Key messages:

- The available evidence from RCTs shows the efficacy of RSV vaccines in reducing LRTI with no differences across different priority groups.
- National recommendations on RSV vaccination can be further informed for future studies investigating RSV vaccines efficacy across different subgroups.

Abstract citation ID: ckae144.1564
Impact Assessments - existing procedures and potentials for health and health equity

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Impact assessment tools are used in policy making all over Europe, some have a legal foundation, others were performed voluntarily for certain measures. Usually, impact assessment procedures are dedicated to specific policy areas or political fields. As policies often have impacts in more than one political area, an interlinkage of impact assessments would be appropriate - also to foster co-benefits of policy making. To follow this approach of a more integrated way of impact assessment, it is necessary to gain an overview and understanding of different procedures in place on national level. As policy making is important for designing healthy living environments, a specific task in the EU Joint Action Prevent NCD is focussing on fostering health and well-being through impact assessment procedures. Therefore, an assessment of the existing impact assessments in the participating member states will be performed in 2024. By using a document analysis of guiding material like guidelines, standards or web applications for the specific impact assessment types, it will be investigated how health and health equity aspects are already included. A qualitative comparison of the results can deliver similarities and differences but also promising practices in the member states. The preliminary results of this analysis will be presented. By learning about the different impact assessment procedures in place, potential synergies and entry points for health and health equity could be found. In a next step, a comprehensive checklist for health and health equity should be developed and piloted in the member states. The final version of checklist should be a guiding material that could be included in various Impact Assessment procedures.

Key messages:

- Impact assessment procedures are important for policy making and can foster co-benefits in various political fields.
- By learning about the different impact assessment procedures in place, potential synergies and entry points for health and health equity could be found.

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Assessment of controlled assistance from e-bikes as a mitigation strategy for individual PM exposure

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Background: While promoting active mobility and outdoor activities can benefit health (HLT), it also increases Exposure (EXP) to air pollutants, such as particulate matter (PM), due to the increased ventilation rate (VR) under physical activity. Traditional assessments of individual (IND) PM EXP involve costly equipment inaccessible to the public, but real-time low-cost sensors (LCS) are now emerging. This study presents a proof of concept to demonstrate the use of LCS for examining the real-time IND respiratory dose deposited (RDD) to PM cycling across the Brescia province.

Methods: An e-bike was ridden 33 times between 2022 and 2023 wearing a LCS for PM concentration [PM] linked to a GPS. Respiratory dose deposited(RDD) was calculated for six different locations within each route based on experimental PM and various VR.

Results: The LCS allows for the study of the spatial and temporal variability of [PM], revealing a significant difference ($p < 0.01$) according to the heating system operation and no significant difference ($p > 0.05$) depending on the location. RDD increases with [PM] and VR. Real-time and integrated RDD is calculated for routes with high (> 50 µg/m3), medium (25 µg/m3), and low (<10 µg/m3) [PM2.5]. The e-bike assistance is activated when the WHO interim target 4 of [PM] is reached to reduce VR, which corresponds to a shift to a lower physical activity intensity. The RDD calculated using the e-bike assistance over the path reduces RDD by about 23% and 11% over the high and medium [PM], while it never activates for the low [PM].

Conclusions: This study demonstrates that the use of LCS allows the estimation of IND RDD, and the implementation of mitigation strategies based on controlled assistance from e-bikes would enable the reduction of PM individual EXP.

Key messages:

- The integration of HLT data from wearable and air quality LCS enables the promotion of active mobility and outdoor activities controlling the EXP to air pollutants.
- Establishing generalized guidelines based on this mitigation strategies for individual exposure reduction may also inform policy recommendations for promoting active and green mobility.

Abstract citation ID: ckae144.1566

Company commitments on nutrition and sustainability: A three-country comparison

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Background: The Business Impact Assessment (BIA) tools were developed by INFORMAS to document companies' commitments on population nutrition (BIA-Obesity) and environmental sustainability (BIA-Sustainability). As part of the EU-funded Food Systems that Support Transitions to Healthy and Sustainable Diets (FEAST) project, we used the BIA-Obesity and BIA-Sustainability to map the public commitments of a range of national and international food companies active in Belgium, Ireland, and Portugal.

Methods: We selected companies (Belgium $n = 37$; Ireland $n = 39$; Portugal $n = 36$) across the packaged food, soft drinks, quick service restaurant, grocery retailers, infant formula, and catering industries. Selection was based primarily on the companies' market shares in each country, but minor adaptations were made to enable comparison of findings between the countries. We searched each company's website, annual reports, and other public sources, logging all commitments relevant to the domains of the BIAs. Domains and criteria were adapted to reflect the regulatory and legislative environment in each country.

Results: In all three countries, commitments on sustainability were significantly stronger than those on nutrition, though still falling short of best practice. Within sustainability, commitments found in Belgium and Portugal were significantly stronger than those found in Ireland. Nutrition-related commitments were more consistent across the three countries, with companies in Ireland and Portugal showing the highest-scoring commitments in relation to product formulation.

Conclusions: Companies across all industry sectors and countries fall short of best practices, with a stronger commitments to environmental sustainability than to tackling obesity and non-communicable diseases. These results underscore the critical necessity for more ambitious government regulations at both European and national levels.

Key messages:

- Critical necessity for government regulations at both European and national levels to adress environmental and nutritional challenges.
- Industry need stronger commitments to tackling obesity and non-communicable diseases.

Abstract citation ID: ckae144.1567

Objective and subjective physical activity assessment in obese patients with eating disorders

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Background: Discrepancies between objective and subjective measures of physical activity have been reported in healthy populations but remain unexplored in adults with obesity and psychosomatic disorders. Exercise is key for reducing these disorders, yet physiological and psychosomatic factors may complicate valid activity assessments in this population. Here, we compare self-reporting with actigraph data in a clinical setting.

Methods: Over two years, 27 obese patients (21 female, 6 male; 43± 14 yrs; 41.3±5.7 kg·m−2) with eating disorders (EDE-Q) were recruited from an Austrian Psychosomatic Center. Total physical activity was assessed using the metabolic equivalent (MET min/w) and sitting time (min/d). Objective data were collected using the SenseWear® wristband (SWA) during weeks 3-4 of patients' clinical stay. SWA was worn for ≥18 h/d on ≥ 4 days, including one weekend day. Patients self-administered the International Physical Activity Questionnaire (IPAQ-SF) in alignment with the ∼7 days of SWA wear. Concurrent validity - SWA as a criterion - was assessed using regression analyses, and proportional bias was examined with regression and equality line similarity analyses.

Results: Comparison showed an overestimation of total activity (+45%; p<.001) and underestimation of sitting time (-28%; p<.001) with IPAQ-SF vs SWA. Within-patient correlations were poor for MET (r=.92, p<.001) and impractical for sitting time (r=.27, p=.018), with a proportional bias for both outcomes (p≤.001). Converting objective to subjective measures yielded typical errors of 232 (total activity) and 90 min (sitting time).

Conclusions: The observed disparities emphasize the need to integrate sensor-based assessment of physical activity into clinical practice or tailored public health initiatives for adult obesity and psychosomatic disorders. However, further research is needed to evaluate the long-term impact of incorporating accurate SWA data on intervention efficacy in this vulnerable group.

Key messages:

- There was strong evidence for meaningful differences in objective vs subjective physical activity assessments in obese patients with eating disorders.
- Integrating objective measures into treatment seems crucial to improve exercise-guided interventions and address the global obesity and psychosomatic disorders pandemic.

Abstract citation ID: ckae144.1568
Combating antimicrobial resistance: A framework for educational tool innovation

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Issue: The World Health Organization (WHO) stresses the need for educational and training initiatives to address antimicrobial resistance (AMR) across human, animal, and agricultural sectors. AMR, a growing public health threat, was responsible for approximately 4.95 million deaths in 2019. Traditional educational frameworks tackling AMR are often applied in isolated sectors, failing to incorporate a holistic or collaborative approach.

Description of the Policy: The Holistic Engagement and Adaptive Response Theoretical framework (HEARTf) proposes a comprehensive, innovative approach combining behavioral theories, and persuasive technology, including the Theory of Planned Behavior, Persuasive Technology, and Diffusion of Innovation. The framework is designed to integrate stakeholders in developing and accessing educational tools, specifically a game designed to teach students about AMR. HEARTf emphasizes a multidisciplinary methodology, beginning with Phase 1 (exploratory phase) to gather baseline information from potential prescribers in Norway and Zambia.

Results: Initial application of HEARTf is leading the development of an educational game on AMR. This game uniquely combines behavioral theories and digital design, focusing on high-impact areas of AMR. Preliminary feedback indicates enhanced stakeholder engagement and a heightened willingness to adopt AMR best practices across different sectors.

Lessons: The HEARTf approach demonstrates the potential for enhancing AMR education through innovative, theory-based game design and development. It advocates for the continued integration of comprehensive educational strategies into global health initiatives to combat AMR effectively. These actions, being tailored to diverse sectors, suggest that similar holistic, theory-driven approaches may be beneficial in other public health crises.

Key messages:

- HEARTf fosters innovative, multidisciplinary AMR education, enhancing stakeholder engagement and adoption of best practices.
- Theory-based educational tools in AMR developed using HEARTf can significantly impact global health strategies and should be integrated into broader public health efforts.

Abstract citation ID: ckae144.1569
A cross-country comparison of the organisation and reimbursement of intensive care in Europe

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Background: During the pandemic, intensive care capacity was a heavily discussed topic in Europe. Many European countries have increased their intensive care capacities to ensure treatment of all COVID-19 patients. A study, however, revealed that organisational characteristics, among other factors, were associated with in-hospital mortality. Our study thus aimed at reviewing international models for the organisation and reimbursement of intensive care.

Methods: Based on a scoping review, a number of European countries (Denmark, England, France, Germany, Italy, the Netherlands, Sweden) was selected for a questionnaire-based expert survey.

Results: In most countries, intensive care is defined by law, while the definition in two countries has a recommendatory character and/or is driven by reimbursement. In line with the European Society of Intensive Care Medicine's recommendations, the majority of countries has organised intensive care around 2-3 different (heterogeneously defined) levels of care for which reimbursement sometimes differs according to the level. For most countries, the number of physical (i.e., number of operable beds) as well as human resources (i.e., nurses) in intensive care is unknown. Many countries have an intensive care register which, in the case of Germany, was only implemented as a response to the pandemic. However, comparability is limited due to differences in indicators used. Although promising telemedical approaches in intensive care do exist, their use is not yet formalized in most countries.

Conclusions: Most countries rely on a level-based organisation of intensive care, even though clear evidence on their effect is missing. Heterogeneity of definitions as well as quality monitoring makes a comparison difficult. Further research is needed to better understand best practices and thus increase resilience as well as pandemic preparedness. Telemedical interventions could elevate (access to) high-quality care, especially in times of crises.

Key messages:

- Further research is needed to better understand best practices and thus increase resilience as well as pandemic preparedness.
- Telemedicine could elevate (access to) high-quality intensive care, especially in times of crises.

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BEST-COST project: a scoping review on the use of multiple deprivation indices in Europe

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Background: A Multiple Deprivation Index (MDI) is a composite measure designed to comprehensively evaluate the socio-economic status of individuals within a population. While various countries have employed their own versions of MDI to assess deprivation, none have been developed at the European level thus far. The BEST-COST project (www.best-cost.eu) aims to integrate the dimension of social inequalities in the assessment of the burden of environmental stressors, using a new MDI. Therefore, the objective of this study is to conduct a scoping review to identify and assess current MDIs while extracting details on the methodologies employed in their development.

Methods: We conducted a scoping review on deprivation indices in European countries, encompassing three databases (Medline, Embase and Web of Science). Following screening of all the articles based on inclusion criteria, we specifically examined the methodological choices made across the development of the MDIs, such as the choice of the underlying indicators, geographical scales, data source used, and if and/or how indicator weighting was applied in creating a composite score.

Results: In total, 22 MDIs were identified from 195 articles. 42% of these indices were developed from census data at the municipality level or finer. About half of them (55%) employed weighting of indicators, thereby reflecting their relative importance within the index's score. From these 22 MDIs, a total of 156 individual indicators were extracted. These indicators encompass several domains such as basic amenities, crime, education, employment, family structure or income. The extensive variety of indicators can be attributed to cultural differences within the EU, data availability and the specific time period during which each index was developed.

Conclusions: Several European countries have separately developed their own MDI, showcasing significant variability in both the included individual indicators and the methodologies applied.

Key messages:

- This review highlights the variability of existing indices and which methodologies could be used for the development of a Europe-wide multiple deprivation index.
- It further emphasizes the importance of considering cultural differences and data availability across countries in this process.

Abstract citation ID: ckae144.1571
A Conceptual Model for Health Impact Assessment of Personalized Prevention Policies

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Background: Personalized prevention and pharmacogenomics are emerging fields in global health, promoting tailored approaches to disease prevention and individualized drug therapy, based on the individuals' genetic profile. However, adoption of these technologies in public health is challenged by the possibility of health disparities. Health Impact Assessment (HIA) is a useful tool to address this issue, by examining how policies differentially impact population groups, guiding stakeholders to more equitable and inclusive outcomes. Solid frameworks for assessing health impacts are needed to avoid heterogeneity when accounting for equity outcomes in HIA. This study tested a conceptual model for HIA in personalized medicine, using a case study in pharmacogenetics to map potential impacts and outcomes, with a focus on health equity.

Methods: A conceptual model for a HIA was developed to map expected impacts and outcomes of a health policy, aimed at enforcing DPYD genotype-guided dosing to prevent fluoropyrimidine toxicity in colorectal cancer patients. The conceptual model was developed based on literature reviews and consultation with stakeholders. Identification of relevant impacts guided selection of indicators and quantitative impact assessment using a Markov chain model.

Results: Impact pathways were identified using a three-tiered reference framework encompassing individual and population perspectives, organizational factors, and overarching health system considerations. The final diagram outlined key outcomes in four categories: health, organizational, economic and equity. HIA projections using this model were obtained for the DPYD testing policy.

Conclusions: In the rise of personalized medicine and pharmacogenomics, health inequalities challenges need to be addressed before implementation in healthcare. This study provided a novel HIA conceptual model for personalized prevention policies based on genomic information, with an emphasis on equity.

Key messages:

- HIA is an adequate tool to evaluate potential health inequalities resulting from personalized medicine policies in healthcare.
- This study provides a validated framework for HIA of personalized prevention policies grounded in genomic data.

Abstract citation ID: ckae144.1572
Frailty and quality of life in italian older adults: implications for public health interventions

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Background: The increasing focus on frailty in older adults underscores the significance of a timely multidimensional assessments and early detection to avert adverse outcomes. The primary aim is to integrate digital technologies, specifically online assessment tools, for the identification of frailty and the assessment of Quality of Life (QoL) in elderly individuals.

Methods: A nationwide multicentric study was conducted. Seven Italian centers and regions evaluated frailty in older adults residing in the community, through a prospective observational cohort study. The chosen questionnaires, Sunfrail+ and SF-12, were implemented through an easily accessible online tool, swiftly generating final scores for each test. The cross-sectional analysis included 503 older adults. The cut off to define a person "frail" is 3 positive alerts in Sunfrail baseline items, according to the literature.

Results: In this sample an average of 2.31 positive alerts were generated. Significant associations were established between the number of positive warnings and SF-12 physical and mental indexes, indicated by $X2=53.1$ ($p < 0.001$) and $X2=25.1$ ($p < 0.001$), respectively. The difference between two groups (frail and not frail) in relation to QoL is statistical significantly (U di Mann Whithney $p < 0.001$). Mean QoL mental and physical indexes are 46.3 and 39.3 in frailty group, versus 51.7 and 46.5 in non frailty group, respectively. The correlation is conceptually consistent: as frailty increases, QoL decreases.

Conclusions: The frailty assessment associated with the QoL assessment provides relevant information to monitor the impact of prevention interventions at community level. The assessment of frailty leads the prevention intervention whose impact could be assessed also through QoL tools. This study underlines a meaningful association between assessment tools, substantiated by conceptual correlations.

Key messages:

- Sunfrail and SF-12 are easily accessible online tool useful for identification of frailty and the assessment of Quality of Life (QoL) in elderly individuals.
- The older population in Europe is increasing a timely assessment of frailty must be a public health priority.

Abstract citation ID: ckae144.1573
A year of rapid reviews: evidence-based decision support for Austrian social insurances & hospitals

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Background: The Austrian Institute for Health Technology Assessment (AIHTA) has supported the decisions of Austrian social insurance funds and hospital providers with rapid reviews since 2023. This summary of rapid reviews aims to provide insights on findings, as well as experiences and challenges of conducting the rapid reviews after one year.

Methods: We included all rapid reviews that were requested to the AIHTA team in 2023. For research questions that were withdrawn, the reasoning was documented. The completed rapid reviews were grouped into medical specialties, depending on the intervention analysed. The conclusions of the rapid reviews were presented in tabular form, with the strength of the available evidence classified as high, moderate, low or insufficient.

Results: The rapid reviews on interventions ($n = 9$) cover a variety of medical specialties (orthopaedics, gynaecology, neurology, physical medicine, ophthalmology, vascular surgery and dermatology). In three rapid reviews, the analysed evidence on the intervention was insufficient for benefit (compared to standard of care). In four rapid reviews, the evidence indicated a potential benefit with some limitations (e.g. indication-specific results, or minimal clinically important difference not clearly achieved). In two rapid reviews, the evidence indicated a potential benefit. For three topics, no rapid review was conducted (topic scope too broad for rapid review, change in prioritisation). Challenges include time constraints, as well as narrowing the research questions to be suitable for rapid reviews.

Conclusions: The overview of rapid reviews highlights evidence-based findings on medical interventions. Further steps include collecting feedback from inquirers, on the extent to which the evidence from rapid reviews was used to support the decision-making. Rapid reviews are a feasible tool but require continuous evaluation and further adaptation of methods.

Key messages:

- The rapid reviews to inform decision-making processes for Austrian social insurance funds and hospitals spanned multiple specialties and revealed varying levels of evidence.
- To improve the implementation of rapid reviews, and to overcome challenges of time constraints and narrowing down research questions, feedback from stakeholders should be collected.

Abstract citation ID: ckae144.1574
Indicators of the clinical utility of genetic or genomic testing: a scoping review

Angelica Valz Gris

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Background: Genetic or genomic tests are the cornerstones of personalized prevention. Previous reviews primarily focused on theoretical frameworks rather than actual assessments and assessed dimensions rather than specific indicators within these dimensions. Our scoping review aimed to review the dimensions and the specific indicators measured in the published assessment reports of genetic or genomic tests.

Methods: We selected formal assessments of genetic and genomic test used for prevention through PubMed, Web of Science, Scopus, websites of 20 different organizations, Google, and Google Scholar. Also, through a separate analysis we identified ten comprehensive dimensions of clinical utility through an analysis of 30 theoretical frameworks for genetic and genomic tests. From the included assessments, we extracted all the indicators, clustering them based on the comprehensive dimensions.

Results: From 3054 unique references and 12000 grey literature search results, we collected 57 assessments, all from high income-countries (in Europe (53%) and North America (47%)). The assessment methods were HTA (42%), EGAPP (25%), ACCE (21%) and other (12%). 951 disease-specific indicators were extracted from the assessments. Analytic validity (60%), clinical validity (79%) clinical efficacy (79%), economic impact (58%) were the most common dimensions (had at least one indicator). However, only 12 assessments (21%) include indicators that compared health outcomes between tested and untested groups. Equity, acceptability, legitimacy, and personal value were evaluated in less than 15% of the documents.

Conclusions: Our study illustrate that, although dimensions such as equity and acceptability, are significantly emphasized in traditional evaluation frameworks, these are often not considered in the assessments. Additionally, our study has underscored a significant dearth of primary evidence concerning the clinical efficacy of these technologies.

Key messages:

- Our study highlights the prevalence of evaluations lacking indicators for equity, acceptability, and legitimacy dimensions and a lack of direct evidence of clinical efficacy.
- The catalog of indicators was openly provided as a resource for researchers and institutions working in evidence-based evaluations of personalized preventive healthcare.

Abstract citation ID: ckae144.1575
Rapid health technology assessment to inform policy: a case study with respiratory syncytial virus

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Background: Respiratory syncytial virus (RSV) can cause severe acute respiratory tract infection in infants and older adults. However, until recently, no immunisation interventions were available to reduce the burden of RSV disease in the general population. New health technologies have now been authorised in Europe for infants (a long-acting monoclonal antibody (nirsevimab) and a maternal vaccine (RSVpreF)), and two vaccines for adults aged $\geq$60 years (RSVPreF3 and RSVpreF). A rapid health technology assessment (HTA) was requested by the Irish Department of Health to support an interim decision on RSV immunisation.

Methods: The rapid HTA commenced in January 2024, and comprised description of technology, a summary of international practice, national and international epidemiology and burden of disease, and a costing analysis. The summary of international practice (including underpinning evidence) was undertaken rather than a systematic review of effectiveness and safety due to the rapidly changing evidence base and short timeline within which information was required.

Results: While new recommendations regarding immunisation against RSV are emerging internationally in response to recently authorised technologies, implementation and funding strategies are not currently widespread. Compared with a full HTA, a rapid HTA enabled an efficient and flexible approach to producing a high quality evidence synthesis to inform a temporary policy decision, taking approximately 6 months to complete rather than 12 months or longer. A full HTA is planned to inform long-term decision-making on this topic, but would not have been feasible to inform an interim decision.

Conclusions: This rapid HTA will inform a temporary decision on immunisation policy for a single RSV season in Ireland. Conducting a rapid HTA prior to a full HTA has enabled timely decision-making, with implications for Ireland's national healthcare system and people at risk of severe RSV-related disease.

Key messages:

- Innovations in immunisation against RSV are leading to changes in policy across Europe.
- Rapid HTA can support timely, evidence-based public health decision-making in a fast-evolving field.

Abstract citation ID: ckae144.1576
Health Impact Assessment in Personalized Prevention: three applications on pharmacogenomic testing

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Background: In recent years, literature on the efficacy of genetic and genomic tests has expanded, yet the impact of personalized prevention programs that include such tests remains understudied. Our study aims to test the use of the Health Impact Assessment (HIA) framework, traditionally applied in non-health policy evaluation, to assess the impacts of personalized prevention policies.

Methods: We selected a policy mandating dihydropyrimidine dehydrogenase (DPYD) genetic test use before prescribing fluoropyrimidine for colorectal cancer (CRC) patients. Three HIAs are being conducted in Italy, Portugal, and Finland to assess the applicability across different contexts. The assessment involves literature review, comparative risk modeling, and stakeholder interviews. Three national steering committees, comprising representatives from key interest groups and experts, will evaluate evidence to gauge policy impacts and offer recommendations.

Results: The potential impacts identified include CRC patients' outcomes, economic, organizational, patient experience, clinician workload, and equity. Preliminary results show a consensus in literature and national guidelines on the ability of the DPYD test to reduce adverse events and enhance the quality of life of CRC patients. However, the assessment reveals context-specific effects regarding equity, influenced by the prevalence of ethnic groups and variations in access to health services across regions. Differences also emerged on organizational aspects like the availability of resources such as laboratories and personnel. A lack of literature was observed on patient acceptability and clinician attitudes towards the test.

Conclusions: The use of HIA in personalized prevention might assist in identifying policy impacts often overlooked through the involvement of key interest groups in the assessment process. Such effort can further emphasize the significance of evaluating these programs while considering the geographical context.

Key messages:

- Our study innovatively applies the Health Impact Assessment framework to evaluate personalized prevention programs in pharmacogenomic, addressing a critical research gap.
- Preliminary findings underscore the importance of considering geographical factors in public health policy evaluation, highlighting nuanced context-specific effects.

DL. Poster display: Health care services and systems

Abstract citation ID: ckae144.1577

A Personal Health Record for patients with multiple sclerosis: A 2-year evaluation study

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Background: Multiple sclerosis (MS) is a chronic disease impacting the central nervous system, affecting 2.8 million people worldwide. Effective self-management is crucial for treating chronic diseases, including MS. Personal health records (PHRs) show promise in supporting self-management, potentially empowering patients and enhancing their engagement in treatment and health. However, implementation challenges persist.

Objectives: This study aimed to) assess the feasibility and usability of the PHR according to patients and healthcare professionals (HCPs), and 2) evaluate implementation determinants, and exploring preliminary effects on a range of outcomes related to the quality, efficiency, and costs of care, as well as health-related outcomes.

Methods: A mixed-methods study was conducted in a Dutch hospital. Quantitative data from 80 patients and 12 HCPs were collected via questionnaires at baseline (T0), after one (T1) and 2 years (T2). Focus group interview were conducted at T2 with 7 patients and 4 HCPs.

Results: Most patients never logged in during the first year and logged in a couple of times during the second year, with 15 minutes per log-in session. The HCPs mainly logged in a couple of times per year, averaging six minutes per session. Patients' and HCPs' usability and satisfaction scores were below average and moderate respectively. Various facilitators and barriers were identified, including knowledge gaps, staff capacity issues, and ICT obstacles. No significant differences were found in preliminary effects. Qualitative data highlighted benefits in terms of gaining insight into health data but revealed challenges with log-in issues and information retrieval.

Conclusions: Implementation challenges hindered PHR adoption. The evolving nature of PHRs requires ongoing evaluation and adaptation to optimize their potential benefits. Utilizing a participatory design approach and a dedicated implementation team could enhance adoption and maximize benefits.

Key messages:

- A personal health record (PHR) for patients with MS was evaluated within the care setting of a Dutch hospital, demonstrating limited usability and moderate satisfaction.
- Diverse obstacles impeded the adoption and uptake of the PHR, but potential solutions lie in continuous development with a participatory design approach and dedicated implementation team.

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Right-Siting Care and Decongesting Specialist Outpatient Clinics - A Singapore Case Study

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Issue: Globally, Specialist Outpatient Clinics (SOCs) face a growing burden due to rising chronic diseases. This strain on resources leads to long appointment wait times (LAWTs), delaying diagnoses and treatments. This is particularly of concern in countries with rapidly ageing populations such as Singapore.

Description: The Right-Site Care Program is a healthcare transformation initiative implemented by individual healthcare clusters within Singapore to improve access to timely SOC care by directing patients to the most appropriate care level (right-siting). This transitions stable chronic disease patients to primary care providers (PCPs) for ongoing management. A standardised approach utilises evidence-based guidelines for patient selection, followed by identification and transfer of suitable patients to PCPs. This multi-center program offers a real-world example of healthcare system optimisation for chronic disease management.

Results: A multi-source data analysis, including program reports and peer-reviewed studies from participating healthcare clusters, was conducted to evaluate program impact. The analysis focused on LAWTs, patient outcomes and implementation challenges. Right-siting yielded mixed results across various conditions. Right-sited patients had better survival rates, likely due to closer monitoring and management of chronic conditions with higher total outpatient attendance frequencies. (1) Improvements were particularly significant for diabetes mellitus patients who successfully transitioned to PCPs. (2) However, challenges such as patient scepticism about PCP competence and a preference for specialist care have been identified. (3)

Lessons learned: Right-siting care can improve patient outcomes for certain chronic diseases. The program's impact varied across different chronic diseases, highlighting the need for tailored strategies. Educational interventions addressing patient concerns can facilitate smoother patient transitions and program success.

Key messages:

- Right-siting care shows promise, with improved patient outcomes for conditions like diabetes mellitus.
- Patient education is crucial to overcome patient scepticism and preference for specialists.

Abstract citation ID: ckae144.1579

Impact of COVID-19 on cardiology and neurology services in a peripheral hospital in Northern Israel

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Background: The indirect impact of COVID-19 pandemic on clinical services remains incompletely described in secondary care hospitals outside major urban centers. We compared clinical outcomes before and during the pandemic in a disrupted service (Neurology) and a non-disrupted one (Cardiology) in a peripheral hospital in Israel, using Cerebral Vascular Accident (CVA) and ST-elevation myocardial infarction (STEMI) as clinical indicators, respectively.

Methods: We compared demographics, treatment and outcomes from CVA and STEMI patients who attended Ziv Medical Center, Israel, during the pandemic (15/3/2020-15/4/2022) and before (1/1/2018-14/3/2020), Using chi-square, t-test and Wilcoxon-Mann-Whitney tests.

Results: 1029 CVA and 497 STEMI patients were included. Those who arrived during the pandemic were demographically comparable to those arriving before. Compared to pre-pandemic, intra-pandemic median time for CVA patients from arrival to imaging was longer (23 vs. 19 minutes, $p = 0.001$). However, timing from arrival to tissue Plasminogen Activator administration was similar (49 vs. 45 min, $p = 0.61$). The likelihood of transfer to another hospital was higher (20.3% vs. 14.4% $p = 0.01$) and median length of stay (LOS) was shorter (3 vs. 4 days, $p < 0.05$). Among STEMI patients, median time from arrival to percutaneous coronary intervention during the pandemic was shorter than before (45 vs. 50 minutes $p = 0.02$) and median ejection fraction at discharge was higher (50% vs. 45% $p = 0.02$). Mean LOS was shorter (3.86 vs. 4.48 $p = 0.01$), and unplanned re-admission to the ED was less frequent (7.8% vs. 14.6% $p = 0.01$). No significant changes in mortality were observed.

Conclusions: Our data shows no major negative impact of the COVID-19 pandemic on CVA and STEMI outcomes, and possibly improved care in the less disrupted department. Follow-up qualitative studies with neurology and cardiology staff already in action to comprehend how quality of care was maintained during the crises.

Key messages:

- In peripheral setting, COVID-19 hadn't negatively impact Neurology or Cardiology acute clinical outcomes.
- The consequences of maintaining clinical performance when working under adverse conditions requires further research.

Abstract citation ID: ckae144.1580

Oncofertility in primary health care: the role of the Portuguese family doctor

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Background: The increasing number of cancer cases diagnosed at young ages and the impact of the disease and treatments on reproductive function have led to the development of Oncofertility. While oncologists typically lead these discussions, family doctors, as primary care providers, also play a crucial role. This study aims to assess family doctors' knowledge, attitudes, and practices regarding fertility preservation in cancer patients.

Methods: This cross-sectional study, conducted between April 2023 and March 2024, surveyed 351 General and Family Medicine doctors from the Portuguese Northern Regional Health Administration. The questionnaire, consisting of 15 questions, assessed sociodemographic profiles, knowledge, attitudes, and practices. Data were analyzed using descriptive statistics and multivariate logistic regression.

Results: Most participants were female (80.5%) and under 40 years old. The majority (91.5%) had treated fewer than 10 cancer patients under 40 in the past two years. Key barriers included lack of knowledge (63.3%), time constraints (57.0%), and patient age (18.5%). Male physicians were more likely to address specific fertility concerns (OR 2.239) and less likely to view patient age as a barrier (OR 0.459). Physicians aged 31-35 were less likely to discuss fertility preservation (OR 0.553) but more likely to address it in the first consultation (OR 2.969). Urban-based physicians were less likely to discuss fertility preservation (OR 2.099). Only 9.1% always discussed fertility preservation before treatment, 27.6% did so sometimes, and 63.3% never discussed it.

Conclusions: There are significant gaps in the knowledge and practices of family doctors regarding fertility preservation for cancer patients. Targeted training and resources are urgently needed to support family doctors in effectively discussing fertility preservation, crucial for improving the quality of life of young cancer patients wishing to preserve their fertility.

Key messages:

- Empowering Portuguese family doctors to address fertility concerns in cancer patients contributes to comprehensive oncofertility care, improving patient outcomes and quality of life.
- Integrating oncofertility support with Portuguese family doctors strengthens primary care, ensuring discussion of fertility preservation is considered as part of cancer treatment planning.

Abstract citation ID: ckae144.1581

Barriers to young people's use of sexual and reproductive health services in Asia-Pacific

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Background: Qualitative literature extensively documents young people's barriers to accessing sexual and reproductive health (SRH) services in Asia-Pacific countries. However, efforts to synthesise this research for practical use in healthcare policy and practice are lacking. This systematic review aims to systematically review and synthesise published qualitative literature focusing on young people's utilisation of SRH services and understanding common access barriers.

Methods: We systematically searched five electronic databases from inception until 24 June 2022: MEDLINE, EMBASE, PsycINFO, CINAHL, and Web of Science. Google Scholar and reference lists of all included studies were also searched. We used the Critical Appraisal Skills Programme (CASP) checklist for appraising the quality of included studies and analysed the data using a thematic synthesis approach.

Results: We included 31 papers reporting the experiences of over 1800 young people from 16 Asia-Pacific countries. Thematic synthesis identified several factors affecting adolescents' utilisation of SRH services, which were grouped into six descriptive themes: navigating puberty; lack of SRH knowledge; embarrassment and confidentiality concerns; low decision-making autonomy; traditional practices and religious beliefs; and socio-cultural norms. Our overreaching analytical theme highlighted the role of shame as a key emotion hindering young people's utilisation of SRH services.

Conclusions: Direct communication about SRH issues is crucial for teenagers. Embarrassment, privacy concerns, and stigma significantly affect their service utilisation decisions. Inclusive interventions for both youth and their communities by addressing socio-cultural factors are essential for optimising service accessibility and guiding evidence-based interventions and policies across diverse cultural contexts.

Key messages:

- Understanding young people's SRH service barriers in Asia-Pacific countries: Socio-cultural norms are highlighted as crucial for optimising service utilisation among young individuals in this area.
- Inclusive interventions and policies are needed for enhanced accessibility.

Abstract citation ID: ckae144.1582

Early exposure to (hetero)sexism in medical settings: young patients' experiences with gynaecology

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Background: Gynaecology is a highly gendered specialty where gender norms are particularly susceptible to shape patient-provider interactions. Consultations about contraceptive practices, reproductive choices, and sexual activity are fertile settings for the potential confrontation of different sets of gender-related expectations, and the expression of gender-based discrimination, i.e. sexism and heterosexism. We therefore investigated young patients' first experiences with gynaecological care in Germany with a focus on their experiences of (hetero)sexism.

Methods: We conducted 15 qualitative interviews with a gender-inclusive sample of patients aged 16-25 who narrated their first consultations and experiences of gynaecological care. We analysed the data thematically.

Results: Cis-gender heterosexual women composed the majority of the sample; a trans man and two persons who reported being at some point in same-sex relationships were also included. The main reasons for a first consultation were painful periods and contraception. Participants narrated examples of gender-based discrimination, with providers making what was perceived as gender-insensitive, demeaning, or plainly homophobic remarks. Those were particularly present in relation to conversations about the contraceptive pill, with either providers refusing to prescribe it on the account that the patient didn't have sex or "real sex" (i.e. heterosexual intercourse) or with providers pushing for use of the pill "just in case", even when patients didn't need nor want it. Additionally, sexist, unrequited arguments about how the pill could enhance a patient's breast or skin occurred in several conversations.

Conclusions: Our study shows clear occurrences of (hetero)sexism on the part of gynaecologists, from demeaning comments to more subtle reminders of sexist gender norms. It highlights the need to implement more patient-centred, gender-sensitive gynaecological practise to support the promotion of respectful care.

Key messages:

- Young patients are exposed to various forms of gender-based discrimination in gynaecological care in Germany, highlighting how entrenched traditional, (hetero)sexist gender norms are among providers.
- Promoting more gender-sensitive, respectful care could start with a reflection on consultations around the contraceptive pill, as they often crystallise the manifestation of damaging gender norms.

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Hemato-oncology services and COVID-19 Pandemic: The experience of Kazakhstan

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Objectives: The COVID-19 pandemic in Kazakhstan disrupted numerous healthcare services, including those critical for hemato-oncology patients, due to the strained healthcare system. This study examines how the COVID-19 pandemic has affected access to hemato-oncology healthcare services in Almaty, Kazakhstan.

Methods: We retrospectively analyzed patient data from two tertiary centers, City Clinical Hospital 7 (H7) and Kazakh Institute of Oncology and Radiology (KazIOR), from March 1, 2019, to February 28, 2022. Variables included age, gender, residence, hospitalization rate, treatment outcomes (discharged/deceased/transferred), diagnoses (acute leukemia, lymphoproliferative diseases, myeloproliferative diseases), and referral sources. The Statistical Yearbook of Kazakhstan provided comparative data.

Results: From 2019-2022, 6,763 hemato-oncology hospitalizations were registered: 3,583 in H7 and 3,180 in KazIOR. The mean age was 55.04 (SD = 16.07) for females and 51.2 (SD = 16.7) for males. Urban and rural patient proportions were 6,191 (92%) and 571 (8.4%), respectively (Chi-square 13.8, P = 0.001). Fewer patients were discharged in 2020-2021 (n = 2,047) compared to 2019-2020 (n = 2,387) and 2021-2022 (n = 2,081) (Chi-square 20.09, P = 0.003). The death rate was higher in 2020-2021 (3.5%) than in 2019-2020 (3.2%) and 2021-2022 (2.6%) (Chi-square 20.09, P = 0.003). Emergency admissions were 403 (19%) in 2020-2021, 368 (14.8%) in 2019-2020, and 394 (18.3%) in 2021-2022 (Chi-square 2,231, P < 0.001). Transfers from other hospitals increased by 12.4% in 2020-2021.

Conclusions: The COVID-19 pandemic negatively impacted access to hemato-oncology services, increasing mortality. Further studies are needed to understand the factors affecting hospitalization and mortality trends during healthcare crises. Funding: Grant No. AP09260497.

Key messages:

- Access to healthcare services during COVID-19 pandemic for hemato-oncology patients.
- Impact of the pandemic on access to healthcare.

Abstract citation ID: ckae144.1584
Primary clinics achieving regular follow-up of patients: Teamwork aspects among healthcare staff

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Backgrounds: Studies have shown that more temporally regular primary care visits, or visits more evenly spaced in time, are associated with improved patient outcomes. However, no study has examined what clinic staff can do to encourage greater temporal regularity (TR). We aimed to understand factors related to healthcare staff dynamics that contribute to higher TR for adults with chronic conditions.

Methods: The study is part of a two-stage mixed methods project. In the first stage, we ranked clinics according to their TR level. In this qualitative stage, we interviewed staff at 6 clinics with extremely high TR (regular follow-up with primary care physician, or PCP), and 6 clinics with extremely low TR. Interviews were conducted with 15 PCPs, 12 nurses, 15 administrative staff, and 4 pharmacists between July 2022- September 2023. Interviews were audiotaped, transcribed, and analyzed using Atlas qualitative analysis software.

Findings: Themes emerged regarding best ways to promote regular follow-up of patients with chronic conditions. Strategies included having a defined system to reach out to no-show patients, having routine staff meetings to discuss no-shows, adapting workflow to meet the needs of challenging patients, dealing with bureaucracy on patients' behalf, informal channels of communication with patients, and consulting social workers more often. Relational aspects among staff members at high TR clinics emphasized flat as opposed to hierarchical relationships, as well as high levels of teamwork.

Conclusions: Teamwork between staff members in primary care settings can contribute to more proactive care delivery, with greater potential to prevent long-term complications. The findings suggest that a high-functioning multidisciplinary care team that focuses on creating the right sorts of interactions and teamwork among staff members, and uses proactive strategies to help engage patients, can contribute to more temporally regular care and thus improved outcomes.

Key messages:

- Stronger teamwork and flat relationships between staff members in primary care settings can result in proactive medicine and developing strategies that improve patients' regular follow-ups.
- Programs focusing on how medical staff utilize their dynamics/relations to improve health outcomes and how doctors' role align with the staff, can facilitate regular follow-ups of challenging patients.

Abstract citation ID: ckae144.1585
Defining medical deserts—an international consensus-building exercise

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Background: Medical deserts represent a pressing public health and health systems challenge. The COVID-19 pandemic further exacerbated the gap between people and health services, yet a commonly agreed definition of medical deserts was lacking. This study aims to define medical deserts through a consensus-building exercise, explaining the phenomenon to its full extent, in a manner that can apply to countries and health systems across the globe.

Methods: We used a standard Delphi exercise for the consensus-building process. The first phase consisted of one round of individual online meetings with selected key informants; the second phase comprised two rounds of surveys when a consensus was reached in January 2023. The first phase-the in-depth individual meetings-was organized online. The dimensions to include in the definition of medical deserts were identified, ranked and selected based on their recurrence and importance. The second phase-the surveys-was organized online. Finally, external validation was obtained from stakeholders via email.

Results: The agreed definition highlights five major dimensions: 'Medical deserts are areas where population healthcare needs are unmet partially or totally due to lack of adequate access or improper quality of healthcare services caused by (i) insufficient human resources in health or (ii) facilities, (iii) long waiting times, (iv) disproportionate high costs of services or (v) other socio-cultural barriers'.

Conclusions: The five dimensions of access to healthcare: insufficient human resources in health or; facilities; long waiting times; disproportionate high costs of services and; other socio-cultural barriers, ought to be addressed to mitigate medical deserts. The term medical deserts might not be the most appropriate term for defining areas with insufficient access to health services as it excludes essential domains, such as access to public health and preventive services.

Key messages:

- Medical deserts directly and negatively impact the health outcomes of the people living in it.
- Medical deserts might not be the most appropriate term for defining areas with insufficient access to medical services, as it excludes public health and preventive services.

Abstract citation ID: ckae144.1586
GIS and statistics to analyze scale change consequences on medical desert classification in France

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Background: Accessibility is a crucial way to overcome geographical restrictions and provides a path for alleviating the medical desert. Less attention has been paid to the choice of spatial unit in the effect of healthcare multi-accessibility. Inside the OASES European program, the France team proposes to create medical desert classification at the municipality level. The contribution of this study is to highlight the consequences of the choice of spatial scale on spatial distribution and the discrepancies between medical desert classifications.

Methods: Analyses were carried out in metropolitan France and overseas departments, at the commune scale and two other supra-communal scales used by public policies in France. For each spatial unit, a multidimensional and professional classification has been conducted using a three-step method: scores, principal component analysis and clustering. To demonstrate the presence of spatial dependence and to measure homogeneity between classifications joint count autocorrelation indicators and Theil's indexes were applied.

Results: Our results present 7 classes of municipalities, and 5 classes of EPCI or living territories according to their level of healthcare accessibility, the dynamic of supply, and the needs of the population. Spatial representation of the classification demonstrates greater variability at the municipality level than other supra scales. Informative contrasted classes at the municipality level disappeared in favor of the middle class in all accessibility at supra scales. The results demonstrate that spatial dependence between areas at the municipality level reduced the scale effect.

Conclusions: Spatial approaches have become increasingly popular since they enable decision-makers to identify priority areas and allocate resources. Recognizing the instability across various scales is therefore crucial for thinking about the optimal unit of data aggregation when investigating the medical desert.

Key messages:

- Choice of the scale is a mix between public policy decisions and data availability.
- Contiguity constraint is a way to reduce the loss of information after aggregation.

Abstract citation ID: ckae144.1587
Characteristics of applicants with a first-time recognition of need for long-term care

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Background: The increasing number of care-dependent individuals requires approaches to prevent care dependency or reduce loss of independence. Long-term care assessments can provide valuable insights into this. In Germany, the Medical Service is responsible for the long-term care assessment (care level) that focuses on limitations in independent living.

Objectives: The aim of this contribution is to describe initial applicants with identified need for long-term care.

Materials and methods: The nationwide database consists of long-term care assessments conducted by the German Medical Service of health insured people aged 60 and above who received a care level (1=smallest till 5= largest limitations) for the first time in 2021. Long-term care-relevant information is analyzed descriptively.

Results: 339,486 individuals with an average age of 79.6 years (SD: 8.4) were analyzed. The age distribution shows that the 80-89 age group comprises half of the sample (49.9%), whereas those aged 90+ encompass the smallest proportion of the sample (9.3%). More women than men received a care level (59.0% women vs. 41.0% men), with women predominant in care level 1-2 and men in the higher care level 3-5. Overall, approximately half of the sample received care level 2, 32.4 % received care level 1. Care levels 3-5 were assessed less frequently (16.2 % vs. 4.8 % vs. 1.7 %). The most frequent care-relevant diagnoses were senility (R54), polyarthrosis (M15), and dementia (F03).

Conclusions: Over three quarters of initial applicants are classified into the lowest care levels (1 and 2). Accordingly, tertiary prevention measures are recommended, as these may delay the further progression into a higher care level.

Key messages:

- Over three quarters of initial applicants for long-term care are classified into the lowest care levels. Accordingly, tertiary prevention measures may recommended to delay further care progression.
- The most frequent care-relevant diagnoses were senility (R54), polyarthrosis (M15), and dementia (F03).

Abstract citation ID: ckae144.1588

Rehabilitation delivery models to foster healthy ageing - a scoping review

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Background: Rehabilitation is crucial for healthy ageing among older adults, who face heightened risks of non-communicable diseases, infections, injuries, and mental health issues. Yet, understanding tailored rehabilitation for this demographic remains limited. To fill this gap, we conducted a scoping review to identify rehabilitation delivery models targeting older adults' functioning and healthy ageing.

Methods: We systematically searched Medline and Embase (January 2015 to May 2022) for English-language studies on rehabilitation approaches for older adults. Three authors independently screened records for eligibility and synthesized findings through quantitative and qualitative analysis.

Results: Among 6,933 records, we assessed 585 articles, identifying 283 studies with 69,257 participants. Six main rehabilitation delivery models emerged, with outpatient (24%) and telerehabilitation (22%) being predominant. Multidisciplinary teams (31.5%) often followed integrated care principles (30.4%). However, most studies adopted a disease-centric approach (59.0%), neglecting prevalent issues like pain, sensory impairments, incontinence, and sexual dysfunctions. Therapeutic exercises (54.1%) and self-management education (40.1%) were common interventions.

Conclusions: Our scoping review outlines diverse rehabilitation delivery models for older adults, highlighting gaps in addressing prevalent issues and emphasizing evidence-based strategies to promote healthy ageing. It underscores the need for systematic functional assessment and expansion of rehabilitation programs to cover prevalent health concerns. While limitations include reliance on published research and not assessing model effectiveness, this review lays groundwork for future research and innovation in rehabilitation and healthy ageing.

Key messages:

- The scoping review identifies six rehabilitation delivery models for older adults.
- The scoping review advocates for evidence-based strategies for enhancing healthy ageing through rehabilitation.

Abstract citation ID: ckae144.1589

TB Care in Ukraine: Understanding Access Barriers at the Primary Healthcare Level

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Background: In the WHO European Region, Ukraine is a high-priority country for TB control, being one of nine globally with high rates of multidrug-resistant TB. The WHO emphasizes patient-centered TB care, prioritizing patients as key figures in the care continuum. Thus, our aim was to explore barriers impacting the accessibility of TB services for patients at the primary healthcare level (PHC) in Ukraine.

Methods: During December 2022-June 2023, a qualitative study was conducted across eight PHC facilities in the Kyiv, Odesa, Mykolayiv, and Volyn regions. The study comprised: 4 focus groups involving 27 family doctors, 16 in-depth interviews with managers and health authorities from regional and national levels, as well as 25 interviews with TB patients. All data was transcribed, manually coded and deductively analyzed.

Results: All participants highlighted the benefits for patients of providing TB care continuum at the PHC level, yet the program lacks clear requirements for training of family doctors and nurses. Overall family doctors perceived positively various TB training they received; but despite this, they expressed doubts and reported a lack of practical skills, affecting the quality of care provided. Patients highlighted several barriers in interacting with healthcare providers, including stigma and cases of dismissive behavior of healthcare workers, communication challenges, and breaches of patientś data confidentiality. Patients also mentioned self-stigma, and perceptions of family doctors as poorly trained in TB. Still, patients who received healthcare services from the same family doctor "during long time" positively described their experience with TB services too.

Conclusions: Establishing robust patient-provider interaction at the PHC level can help overcome persistent barriers to TB care continuum in Ukraine. To achieve this, a comprehensive TB training program tailored for PHC family doctors and nurses should be developed and implemented.

Key messages:

- Expanding TB healthcare services to primary healthcare levels in Ukraine can be beneficial for patients. Training primary healthcare staff can enhance TB care quality.
- Establishing robust patient-provider interaction at the PHC level can help overcome persistent barriers to TB care continuum in Ukraine.

Abstract citation ID: ckae144.1590
Organisation of medical care in large scale incidents: a practice-oriented research in Belgium

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Background: CBRNe incidents are emergency situations involving the release of chemical (C) or biological (B) substances or radiological/nuclear (RN) contamination, sometimes through an explosion (e). They can result from intentional malicious acts (e.g. terrorism) or unintentional situations (e.g. accidents). In this context, people (victims, care providers, witnesses), equipment (infrastructure, vehicles), animals, objects and/or the environment (buildings, ambulances) may be contaminated by a substance that could pose a threat to health. CBRNe incidents can quickly overwhelm the response capabilities of the affected region and put the healthcare system under great pressure. This research investigated ways of improving the organisation of medical care in CBRNe incidents in Belgium.

Methods: this study involved a mixed method approach in 2022-2023 with scoping and in-depth interviews with actors at operational and strategic levels (public health, Internal Affairs, army, fire departments), participative workshops with stakeholders, contextual desk search, ad hoc literature review and international comparison completed with interviews with national experts (Norway, The Netherlands, France and United Kingdom, United States of America).

Results: hospitals need to be distinguished in type 1 specialized hospitals for decontamination, major trauma management and advanced care for severely burned patients and in type 2 hospitals managing spontaneous arrivals of victims and non-specialised care. All hospitals need to have a strict lock-down policy. On the incident site, an emergency medical mobile team needs to manage the decontamination with the firefighters before the transfer to the most appropriate facility. Additional conditions were found to improve the efficiency of medical care.

Conclusions: this practice-oriented research contributes to a better organization of medical care in case of CBRNe incidents, with the emergence of practical and feasible solutions.

Key messages:
- Hospitals need to be distinguished according to the need for specialised care in case of CBRNe incidents.
- On site decontamination needs to be performed by health professionals and firefighters.

Abstract citation ID: ckae144.1591
Innovations in residential treatment that promote multi-drug addiction recovery

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Background: As the drug addiction crisis deepens in many countries across the globe, governments are rapidly expanding publicly funded treatment facilities. At the same time, the illicit drug market has evolved with many substances now containing multiple addictive drugs that complicate recovery. The evidence base for treatment remains primarily focused on single substances. The purpose of this study was to examine the lived experience of adults who attended in-patient treatment centres for multi-drug addiction in Canada.

Methods: This qualitative study was conducted in 2022 with 32 adults who voluntarily attended an in-patient treatment centre for drug addiction (44% female, 23-53 years). All had been addicted to multiple substances including opioids, crack and methamphetamines. Most (70%) were homeless before treatment. In 1-hour semi-structured interviews adults described the structures and programming that helped them recover in these facilities. Many tried multiple facilities and thus had a rich history of lived experience to draw from. Narrative inquiry was used to characterize qualitative themes across interviews using a phenomenological lens.

Results: Seven qualitative themes emerged from the data. Residential treatment centres that were effective at helping adults recover from multi-drug addiction: (1) provided flexible stays up to 100 days; (2) felt like a home not a prison; (3) permitted opioid replacement therapies; (4) provided a variety of recovery tools (e.g., cognitive behavioural therapy, Narcotics Anonymous, cultural supports); (5) helped adults reunite with family, find a safe place to stay, and find work before discharge; (6) provided transitional housing after discharge if needed; and (7) provided free long-term recovery support and check-ins after discharge.

Conclusions: The findings of this study highlight 7 actions that treatment facilities can adopt and test with their own clients in an effort to better support multi-drug addiction recovery.

Key messages:
- A stronger evidence base is needed to inform in-patient multi-drug addiction treatment.
- Findings underline 7 actions treatment facilities can take to promote multi-drug addiction recovery.

Abstract citation ID: ckae144.1592
Trend of body mass index and its impact on glycemic control in Finnish patients with type 2 diabetes

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Background: Obesity prevalence has increased in Finland and is prevalent in patients with type 2 diabetes (T2D). Understanding the trend in body mass index (BMI) and its impact on glycemic control helps in the assessment of treatment strategies for T2D. We aimed to investigate the current trend in BMI among Finnish patients with T2D and the glycated hemoglobin (HbA1c) control across different BMI categories.

Methods: Regional data on electronic health records (EHRs) covering all public health care in North Karelia, Finland, were used. Patients with T2D (ICD-10 code E11) in 2012-2022 were identified from EHRs. In each study year, patients with ≥ 1 measurement of BMI and HbA1c were included in data analysis. Generalized estimating equations regression analyses were performed to evaluate the trends.

Results: The annual number of patients in the analyses ranged from 5149 to 10216 in 2012-2022. The unadjusted mean BMI remained stable. However, an increasing trend in BMI was observed in the age-adjusted model and remained unchanged with further adjustment for sex, duration of diabetes, and antidiabetic medication use, reflecting the aging of the patient population and lower BMI in aged patients. Patients with higher BMI had higher HbA1c levels in 2012-2022. The increasing trends in HbA1c over time were observed across different BMI categories (except for the obsess class III) accounting for age, sex, and duration of diabetes. However, a decreasing trend in HbA1c was found in the obese class III category with further adjustment for antidiabetic medication use, along with the highest usage rates of the new antidiabetic medications during the follow-up.

Conclusions: Our findings suggest that weight management requires increased attention in Finnish patients with T2D and is also important for better glycemic control. Multimodal treatment, including effective lifestyle counseling, self-care support, and medication management, is needed.

Key messages:

- More attention and resources are needed to achieve optimal weight control.
- Weight management could aid in better glycemic control.

Abstract citation ID: ckae144.1593
Trends in Regional Disparities of Cardiovascular Surgery and Mortality in South Korea

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Objectives: Regional disparities in cardiovascular care in South Korea have led to uneven patient outcomes. Although procedure access and needs are increasing, few studies have linked regional service availability to mortality rates. This study analyzed variation in utilization of major cardiovascular procedures by region and association with short-term mortality to provide better evidence on links between healthcare resources distribution and patient survival.

Methods: A cross-sectional study was conducted using nationwide claims data on patients who underwent coronary artery bypass grafting (CABG), percutaneous coronary intervention (PCI), stent insertion, or aortic aneurysm resection in 2022. Regional variation was assessed by a Relevance Index (RI). The associations between regional RI and 30-day mortality were analyzed.

Results: The RI was lowest for aortic aneurysm resection (mean, 26.2; standard deviation, 26.1), indicating the most uneven regional distribution among the surgical procedures. Patients undergoing this procedure in regions with higher RIs showed significantly lower 30-day mortality (adjusted odds ratio [aOR], 0.73; 95% confidence interval, 0.55 to 0.96; $p = 0.026$) versus those with lower RIs. This suggests that cardiovascular surgery regional availability, as measured by RI, has an impact on mortality rates for certain complex surgical procedures. The RI was not associated with significant mortality differences for more widely available procedures like CABG (aOR, 0.96), PCI (aOR, 1.00), or stent insertion (aOR, 0.91).

Conclusions: Significant regional variation and underutilization of cardiovascular surgery were found, with reduced access linked to worse mortality for complex surgeries. Addressing disparities through cooperation among hospitals and policy efforts is warranted to improve outcomes.

Key messages:

- This study analyzed regional variations in major cardiovascular procedures using the Relevance Index and investigated their impact on mortality rates within 30 days of admission.
- Addressing regional disparities requires improved healthcare infrastructure and comprehensive networks of specialists to ensure timely and high-quality cardiovascular care across South Korea.

Abstract citation ID: ckae144.1594
Hospital policies as a tool to reduce gaps between ethnic groups of employees and patients

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Background: As diverse organizations, hospitals require an inclusive culture that respects and promotes ethnic diversity. Violence, a threat to this diversity, hampers effective organizational functioning. Our study delves into the positive influence of cultural diversity policies and communication about violence on the perception of the hospital's atmosphere regarding ethnic differences among health employees. It enhances hospital labor relations and mitigates the risk of workplace violence.

Methods: 372 hospital employees with an average tenure of 6.5 and an average age of 38 filled out an online close-ended questionnaire (83% are Israeli Jews, 68% are female). 91% report working closely with people from different ethnic origins. Respondents ranked the atmosphere in the hospital regarding ethnic differences between employees and patients, the hospital's cultural diversity policy, and organizational communication about violence. Data were analyzed by SPSS 28.

Results: Positive correlations were found between variables. A positive atmosphere was significantly related to the hospital's cultural diversity policy ($r=.14$, $p=.002$) and to organizational communication about violence ($r=.22$, $p< .001$). However, the regression analysis (with control variables age, sex, and managerial role) revealed that despite employees acknowledging the hospital's efforts to address diversity and violence, these factors only predict 10% of the variance of the hospital atmosphere [$F(5, 366) = 8.346$, $p < .001$; $R^2=.10$].

Conclusions: The hospital should increase actions that will improve the ethnic atmosphere in the hospital. Understanding how the encounter, where employees and patients from diverse ethnic backgrounds interact, influences the hospital's atmosphere is crucial. These interactions can lead to tensions and offensive behaviors toward employees if not managed well. Hospitals can create an inclusive and harmonious work environment by addressing these tensions.

Key messages:

- A cultural diversity policy and communication are necessary to maintain harmonious working relationships. It is essential, particularly in health organizations characterized by ethnic diversity.
- Reducing the perception of ethnic differences may increase well-being and decrease violence. While hospitals often don't prioritize these issues, this study forefront their influence and importance.

Abstract citation ID: ckae144.1595
Impact of COVID-19 on Management, Quality and Satisfaction of Health Organizations

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The hospital health care professionals are the frontline fighting COVID-19 considering they are responsible for all the care provided to patients during all the time they spend at the hospital for diagnosis, treatment or recovering of the COVID-19 disease and other diseases. The purpose of this study was to determine the impact of COViD-19 at the hospital management level and, also, to understand how psychosocial environment, and satisfaction of Health Professionals were affected. A case study was performed in a Portuguese Hospital. Data were collected at one hospital under study at two different occasions: the first before the pandemic (November 2019) and the second almost two years after the pandemic started (November 2021). Regarding data collection, 37.0% of participants responded in the occasion 1 (n = 296) and 63.0% responded in the occasion 2 (n = 503). The instrument for the Assessment of Global Management of Health Organizations (AGMHO) Comparing timings pre and during pandemic COVID-19, it was found that the participants in the pre- COVID-19 era showed stronger organizational culture, higher quality of life, better psychosocial environment regarding content/leadership and higher job satisfaction when compared to the participants during pandemic COVID-19. On the other hand, participants in the second occasion were found to have higher psychosocial risks related to mental health when compared to participants in the pre- COVID-19 phase. The results obtained allow us to identify priorities in terms of promoting well-being and satisfaction of professionals and overall well-being of the health organization, namely intervention in leadership relationships and psychosocial risks at work related to the physical and psychological demands of work, stress management and a more active and involved role for the professional.

Key messages:

- This knowledge facilitates labelling and prioritizing the promotion of well-being and satisfaction of professionals and overall well-being of the health organization.
- The product is a comprehensive diagnostic model of the factors influencing the results in health organizations.

Abstract citation ID: ckae144.1596
Using Unsupervised Learning Methods to Explore the Trajectory of Long-Term Care Service in Taiwan

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Background: Understanding the temporal trends in long-term care (LTC) utilization enables more effective planning by government and service providers. This study employed machine learning methods to explore LTC utilization trajectories among care recipients in a southern county of Taiwan.

Methods: Administrative data from the government-funded LTC programme was utilized, with a total of 24,614 participants included after excluding those with less than six months of data. Daily service utilization records, mainly focusing on caregiving services, were aggregated, and the number of days each participant used LTC services within every 30-day period post-application was calculated. Utilization rates during 6 and 12 months post-application were separately analyzed. K-means clustering, an unsupervised machine learning method, was employed to select the optimal classification and identify LTC utilization trajectories using 10-fold cross validation. Temporal frequency variations of each caregiving service within each trajectory group were visualized using heatmaps.

Results: In the analysis of LTC utilization within the first 6 months post-application, trajectories were classified into 7 groups; while within 12 months, trajectories were divided into 4 groups. These trajectories can be categorized into 4 distinct patterns: High-Stable (6 mo: 21.3%; 12 mo: 35.7%), Low-Stable (6 mo: 33.1%; 12 mo: 37.2%), High-Decrease (6 mo: 12.8%; 12 mo: 10.7%), and Low-Increase (6 mo: 32.7%; 12 mo: 16.5%). We further explored differences in socio-demographic characteristics and needs factors among trajectory groups. Heatmaps were used to illustrate temporal variations in the utilization rates of specific service items, which played a significant role in determining the trajectories.

Conclusions: K-means clustering is useful in identifying distinct patterns among LTC users. Tailored service delivery strategies can be designed to meet the diverse needs of these different user groups.

Key messages:

- The unsupervised machine learning method distinguished various temporal dynamic patterns in LTC utilization.
- Tailored service delivery strategies can be designed to meet the diverse needs of these different user groups.

Abstract citation ID: ckae144.1597
Making integration happen: managers' views on multidisciplinary work in Finnish health system

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Background: In Finland, a large-scale health and social service reform was implemented in 2023. The structural reform centralised the organising of health and social services from some 200 organisations to 22 wellbeing services counties (WBSC). One goal of the reform was to promote service integration between and within health and social services. The reform offers a unique opportunity for investigating how such change unfolds. This study addresses the integration aspirations of those who are responsible for implementing the change, that is middle managers in WBSCs. We focus on micro and meso levels and explore how the aim of multidisciplinary collaboration is interpreted as part of advancing service integration by middle managers in one newly formed WBSC.

Methods: The data for this qualitative study were derived from 11 semi-structured interviews with senior and middle managers responsible for various fields of health and social care services in a single WBSC between October 2022 and June 2023. Inductive thematic analysis was applied.

Results: The managers framed multidisciplinary collaboration very positively and easier to achieve in the new organisation with health and social services united under the same management. The managers acknowledged the need to form collaborative structures (e.g. meetings) and processes at all levels of organisation. Leadership plays a crucial role in creating space for the professionals to form an experience of a shared every-day work. However, previous structures and patterns of work still seemed to limit these endeavours. Tensions between, for example, professional groups or units were left essentially untouched. Multidisciplinary collaboration will serve especially persons with complex and multiple needs and was framed key to cost savings.

Conclusions: While the structural reform opens a window of opportunity to new collaborative patterns, competing logics and interests as well as power imbalances may hamper the development if not addressed.

Key messages:

- Middle managers had high hopes for multidisciplinary work after the health system reform, including effects on the difficult issues concerning costs and health workforce availability.
- While the managers were prepared to promote multidisciplinary work, the prior organisational boundaries and logics hindered integration. Different tensions between stakeholders need more attention.

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Perspectives on collaboration in maternity and child health: Patients and caregivers' views

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Background: The World Health Organization promotes people-centred organization of maternity care and preventive child healthcare (PCHC). However, globally and in the Netherlands, these services often operate separately, causing care discontinuity. We posit that this disproportionately affects vulnerable patients, hindering tailored-care. Our aim is to explore how collaboration between healthcare providers is perceived by mothers and providers, and understanding challenges and needs for integration.

Methods: We conducted 14 semi-structured interviews with mothers ($n = 9$) and healthcare providers (midwives, PCHC caregivers, $n = 5$). Women were categorized as non-vulnerable, potentially vulnerable, or vulnerable based on social situation, enabling comparison of care experiences.

Results: We found that the experienced interprofessional collaboration varied; most non-vulnerable women perceived the interprofessional collaboration as sufficient, whereas women from the potentially vulnerable group were uncertain who to turn to when help was needed. They expressed a need for expectation management to know what to expect from different healthcare providers. Furthermore, they were confused about which healthcare domain (i.e., maternity care or PCHC) 'was in the lead' in the postnatal period. Healthcare providers expressed a need for mutual understanding of expertise to foster trust and ease transitions between maternity care and PCHC. Themes emerged: organizational structures, support levels for collaboration, and trust among providers.

Conclusions: Our findings suggest the necessity for governance and shared ownership in healthcare collaboration in the maternity care and PCHC continuum to meet the needs of potentially vulnerable women effectively.

Key messages:

- Experienced interprofessional collaboration varies among women based on vulnerability.
- Clear governance and shared ownership are crucial for meeting the needs of potentially vulnerable women in maternity and child health services.

Abstract citation ID: ckae144.1599
Healthcare in police custody: a conceptual framework for measuring and improving quality of care

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Background: Individuals in police custody are often in poor (mental) health and can be in need of medical attention. The delivery of primary healthcare in police custody differs from other custodial and non-custodial settings, due to its short-term character and the reliance on custody officers and healthcare professionals to access care. Therefore, medical care for detainees in police custody requires its own standards and indicators to measure the quality of care. We aimed to develop a conceptual framework for (actionable) indicators to measure the quality of care for people detained in short-term police custody settings in the Netherlands.

Methods: We conducted a scoping review and consulted with experts. The scoping review involved Embase, Medline, PsycINFO, CINAHL, Criminal Justice Abstracts, PiCarta and Cochrane, and was supplemented with grey literature searches. We consulted twenty-seven stakeholders with a wide variety of expertise in the field of healthcare in police custody to discuss and validate the conceptual framework.

Results: The conceptual framework consists of 14 domains of structures (e.g. staff and facilities), processes (e.g. triage and coordination of care) and outcomes (e.g. effectiveness and satisfaction) that need to be considered when developing quality indicators for the healthcare provision in police custody. The scoping review yielded 68 publications providing information on common health issues and recommendations related to quality assurance or improvement.

Conclusions: The conceptual framework will guide the development of (actionable) quality indicators, which will be evaluated on relevance and measurability. These are crucial for monitoring care quality and enhancing a learning health systems approach. This study fills a gap in the existing scientific literature by shedding light on the factors contributing to the quality of primary healthcare provision for people detained in short-term custody settings.

Key messages:

- The conceptual framework guides the development of (actionable) quality indicators for healthcare in police custody.
- This study contributes to the creation of a learning health system for healthcare in short-term police custody settings.

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Developing regional Diabetes Registries in Italy: pilot projects implementation within JACARDI

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Issue/Problem: In Italy a National Diabetes registry is planned but not yet set up at the Ministry; JACARDI is contributing to speed up the process so that critical gaps in health data availability can be filled. While some regional registries exist, the lack of cohesion and standardization hinders the tracking of prevalence, incidence, and sequelae, crucial for evidence-based policymaking amidst rising diabetes rates.

Description of the Problem: The JACARDI project, supported by EU funding and running for four years, engages 76 partners from 21 countries and includes 142 national-level projects. Among its focus areas is enhancing data availability, aiming to establish harmonized regional Diabetes registries in Italy to tackle this issue. These efforts aim to create a scalable model enabling data linkage, diabetes type differentiation, and socio-demographic integration. Collaboration with health authorities and societies, drawing insights from existing registries, informs the development process.

Results: A total of 11 regional Diabetes registries are currently in the design phase of implementation. They adhere to a clearly defined methodology, with established essential parameters and data linkage. Consensus on these parameters and linkage was reached through stakeholder discussions, drawing on past registry experiences. The primary goal of the registries is to monitor diabetes prevalence, stratify incidence by demographics, and track sequelae to inform targeted interventions and resource allocation. While scalability beyond Italy may encounter administrative challenges, standardized protocols facilitate transferability. Data Protection stands out as a significant implementation obstacle.

Lessons: Standardized data collection, stakeholder collaboration, and sustainability are vital in registry development. Leveraging data availability for surveillance demonstrates adaptability and scalability, offering valuable insights for enhancing diabetes management.

Key messages:

- Standardized data collection and stakeholder collaboration are pivotal in establishing effective diabetes registries, fostering equity and improving health outcomes.
- Leveraging data availability for surveillance offers a scalable and sustainable approach to diabetes management, facilitating informed policymaking and interventions.

Abstract citation ID: ckae144.1601
Plan for the crisis!

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Background: The COVID-19-crisis has posed major challenges for organisations providing care in terms of fulfilling their contracts as well as maintaining their quality standards. This project aimed to analyse the implementation of gender and diversity sensitive crisis preparedness in health and social care organisations in Austria. The innovation of this project lies in the organisational crisis preparation including the interfaces of all organisations and actors involved in the care of a vulnerable person.

Methods: A comprehensive survey and analysis of existing structures and processes was carried out. A participatory approach was used to develop modular guidelines tailored to different crisis scenarios. This was followed by a detailed process analysis, integration of good practices and the creation of assessment tools for practical evaluation. Staff training and technology needs were identified, followed by an assessment of the applicability of the findings to other social sector organisations.

Results: This project created guidelines with modular structures that enable preparation for crises and their consequences. Thereby strategies for risk mitigation and good practice examples, e.g. from the COVID-19 pandemic, were developed. A self-assessment of the status of crisis preparation as well as the continuous monitoring with special consideration of the intersectional diversity of the target groups and their vulnerability was developed and made available on the web.

Conclusions: The project results in guidelines as well as a self-assessment and monitoring tool directly benefiting the participating organisations. Through its transferability to other organisations the project promotes overall crisis resilience and sustainably strengthens the care for vulnerable groups in times of crisis. In addition, solidarity-based help in crisis situations is promoted. The project promotes not only organisational, but also individual as well as macro-social and economic benefits.

Key messages:

- The project developed guidelines for gender and diversity sensitive crisis preparedness for health and social care organisations, including risk mitigation strategies and self-assessment/monitoring.
- Crisis preparation must be systematically implemented in health and social care organisations involved in care of vulnerable persons.

Abstract citation ID: ckae144.1602
The potential of non-clinical guidance alongside e-mental Health to overcome non adherence

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Background: Mental health problems account worldwide for over an eighth of the global burden of disease and waiting lists nowadays are commonplace. E-Health has potential to reduce mental illness, whilst waiting for therapy or as a stand alone. A big problem with implementation of E-health in clinical practice is non adherence. Non-clinical guidance could make a difference as compared to the non guidance modus. Our research question is: what factors contribute to the potential of non-clinical guidance in overcoming non adherence for e-mental Health for patients with depressive, anxiety and stress symptoms?

Methods: We did a qualitative study in a Dutch general practice. The treatment consisted of several modules accompanied by non-clinical guidance by a healthcare assistant. Out of 190 invited patients, 31 patients participated. Eight weeks after being invited, 11 semi-structured interviews were conducted until data saturation. Thematic analysis was used with open, axial and selective coding.

Results: Three major themes emerged: 1) The patients were satisfied with the non-clinical guidance in almost all aspects: Negative comments arose from an urge for more contact or tailoring. 2) The form of the guidance (e.g. non-clinical; used interface) was subordinate to the amount and tailoring of it. 3) Adherence could further be improved through a more personal introduction, explaining the benefits of certain exercises and more time management.

Conclusions: The potential of non-clinical guidance in overcoming non adherence for e-mental Health can be improved by further tailoring and increasing the interactivity when needed. Further research is also needed, after the suggested improvements, whether the intervention is effective, compared to a therapist guided and a non guided version. This study needs to be repeated in other clinical settings.

Key messages:

- Non-clinical guidance, alongside e-mental health has potential to help with non adherence, thereby decreasing the burden of waiting lists.
- Non-clinical guidance was positively received by patients who received e-mental health, although further tailoring could make online treatment even a larger success.

Abstract citation ID: ckae144.1603
Identifying gaps in health system governance to eliminate informal patient payments

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Background: Informal patient payments continue to exist in many European countries. These payments might take various forms but can be broadly defined as any payments in addition to formal fees determined by the terms of entitlement. Poor health system governance is considered one of the main factors contributing to their presence, although different aspects of governance might be relevant in each country. The aim of this study was to develop an assessment instrument to help identify gaps in health system governance that contribute to informal patient payments.

Methods: The study has been performed in 2022-2023 in three stages. In the first step, relying on the TAPIC framework and available literature on informal patient payments, we developed a list of questions for each domain of governance: Transparency, Accountability, Participation, Integrity, Capacity. In the second step, the questionnaire was assessed by external experts to ensure it covers the full range of relevant aspects. We then applied the instrument to three European countries, i.e. Denmark, Greece, and Poland, where informal payments differ in scale.

Results: The developed instrument includes 22 questions in the five TAPIC domains. They particularly refer to the role of governance in eliminating underlying reasons for informal patient payments (poor quality of health care) and effective penalization of these payments. The application of the instrument showed that in two countries where informal payments are more common, i.e. Greece and Poland, quality and waiting time guarantees are poorly defined, monitored, and incentivized, while existing mechanisms only penalize payments proven to be bribes.

Conclusions: There is a broad range of health system governance aspects that can be directly or indirectly linked to informal patient payments. The proposed instrument can facilitate the development of long- and short-term policies to eliminate informal payments in European countries.

Key messages:

- Policy makers need to take greater account of the role of governance in ensuring health care quality to eliminate informal patient payments.
- The lack of mechanisms to penalize all types of informal payments may contribute to the commonness of these payments in Europe.

Abstract citation ID: ckae144.1604
Referral and disease patterns of patients treated at the Nicosia General Hospital Breast Centre

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Background: Cyprus has one of the lowest mortality rates from breast cancer in Europe. The reasons behind this have not been investigated but it is speculated that the ease of access to Breast Centers in combination with an increased public awareness play a role. The aim of this study was to investigate referral and disease presentation patterns of patients treated at the Nicosia General Hospital (NGH) Breast Centre and define opportunities for effective public health interventions.

Methods: A retrospective study of all patients (585) with in situ or invasive breast cancer treated at the NGH Breast Centre between February 2017 and November 2023 was conducted. Data on referral sources, symptoms, and cancer stage at the time of diagnosis were analyzed using Stata 18.

Results: Most patients were referrals from the national population screening program (42.2%), followed by self-referrals (40.6%), and General Practitioner (GP)/or other specialist referrals (17.2%). Half of the patients (50.3%) were asymptomatic at diagnosis. In addition, 8% of the patients diagnosed with invasive breast cancer were Stage I, 65% Stage II, and 27% Stage III.

Conclusions: Our study provides important insights forming the basis of public health activities for the early detection of breast cancer based on the fact that 20% of newly diagnosed breast cancer cases in Cyprus receive treatment in NGH Breast Center. Although adherence to the national population screening program does not meet desired expectations, a significant proportion of breast cancers were detected via this program highlighting its effectiveness in early detection of asymptomatic cancers. A large proportion of patients were self-referred underlining the high degree of breast cancer awareness in Cyprus but also the media-induced anxiety which leads to early investigations.

Key messages:

- Screening program and breast cancer awareness campaigns are effective in detecting breast cancers early.
- These activities should be sustained to further reduce breast cancer mortality rate.

Abstract citation ID: ckae144.1605
Leaders' perceptions of integrating health and social services after a structural reform in Finland

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Background: Health and social service system was reformed in Finland at the beginning of 2023. The responsibility for organizing health and social services was transferred from c. 300 municipalities to 22 well-being services counties (WBSCs). One aim of the reform was to support integration between and within health and social services. The purpose of this study is to describe strategic leadership approaches to implementing integrated care. The study highlights the issues that should be paid attention to when integrated care practices are implemented.

Methods: The qualitative study utilized semi-structured interviews collected from the upper-level leaders of the WBSCs (n = 25) responsible for the implementation of the reform. The interviewees represented 11 WBSCs. The data were collected in May-August 2023. Inductive content analysis was used for data analysis.

Results: Four strategic leadership approaches to implementing integration were identified: 1) service user-based leadership approach, 2) partnership-based leadership approach, 3) service system-based leadership approach, and 4) knowledge-based leadership approach. Most of the interviewees combined several different leadership approaches in their talk. Each approach emphasized different aspects of implementing integration and the contextual factors that have to be addressed at different levels of the health and social service system.

Conclusions: While the macro level reform toward more integrated health and social service system was implemented, the findings reveal that more efforts are required at the meso and micro levels of the system to fulfill the goal of integrated services. The paper highlights the importance of strategic leadership and its different aspects in implementing integrated care at different levels of the system.

Key messages:

- The paper provides a way of comprehending integration from the perspective of strategic leadership.
- The conceptualization through the different leadership approaches may facilitate forming a shared vision for integration among leaders and managers.

Abstract citation ID: ckae144.1606
Tackling health inequalities by creating new practices of integrated health access

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Background: Health inequalities often emerge in-between health and social care sectors, as part of transitions between providers across the two sectors. Integrated health access is important for addressing these inequalities. Therefore, we need to understand processes of organising integrated health access and how these shape pathways of accessing care. We draw on sociological understandings of organising as practice that emerges as part of interactions between professionals and users.

Methods: We did observations of interactions between professionals and users ($n = 18$ days) and semi-structured interviews with users, professionals, and managers ($n = 33$) in the specialised mental health services in Central Denmark Region and FACT-inspired teams in 3 municipalities. We also conducted 3 focus groups with regional and municipal professionals from these teams. Data was analysed through a qualitative thematic analysis.

Results: Each team had distinct cultures of collaboration and different levels of cross-sectoral collaboration. Creating new, more integrated practices seemed to rely on both, supportive organisational structures and committed engagement in inter-sectoral spaces to change professional meaning systems. When teams were able to collaborate closely, it was easier to retain hard-to-reach users in treatment. However, professional differences could easily create division and therefore maintaining and building relationships were highly important. These mechanisms illustrate the importance of ensuring meaningful spaces for cross-sectoral work, where professionals can interact and create the needed changes.

Conclusions: Organising integrated health access is not merely about providing structures but is also highly dependent on interactions between professionals and users. Analysing interactions between professionals from across sectors, is important to understand the sustainability of integrated health access. In turn, this could help to tackle social inequalities in health.

Key messages:

- Introducing integrated health access is highly dependent on interactions among professionals.
- Integration of professional practices across sectors helps retain hard-to-reach users in treatment.

Abstract citation ID: ckae144.1607
Primary care utilization in Bulgaria: some effects of the COVID-19 pandemic

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Background: Disruptions to primary care provision during the pandemic set back prior advancements in screening and chronic disease management. Delays in routine vaccination added to preexisting hesitancy and sustained the downward trend in vaccination rates. The study examines the magnitude and duration of primary care disruptions in Bulgaria between 2020 and 2022.

Methods: The impact of the pandemic on primary care is assessed using administrative data from the National Health Insurance Fund covering the annual number of primary care services. To evaluate the effect on healthcare utilization, the average number of check-ups per person during the pandemic is compared to a pre-pandemic period (2017-2019).

Results: After the onset of the pandemic, all visits declined significantly on an annual basis. In 2020, overall prophylactic check-ups dropped by 6-13% and remained lower than the baseline until 2022. Initial figures for 2023 suggest some recovery, while specific services are likely to experience an ongoing decrease. During the pandemic, the average number of prophylactic examinations for children fell between 6.9 and 9.3%. In 2022, there was a modest resumption, although these services did not reach the preceding levels. Adult prophylactic visits declined by approximately 10-12% between 2020 and 2021, but following a U-shaped pattern, they rebounded in 2022. Visits associated with chronic diseases experienced a drop of 7.8% in 2020 and continued to decrease in the next two years. Child vaccination was affected for a shorter period. In 2022, the coverage for most vaccine-preventable diseases was close to the pre-pandemic levels. However, the uptake of MMR and pneumococcal vaccines failed to demonstrate a clear path to recovery.

Conclusions: During the pandemic, a considerable drop in primary care utilization has been recorded. Effective recovery requires sustained service delivery and a rapid post-lockdown rebound to mitigate the negative impact on health outcomes.

Key messages:

- Primary care needs additional recovery measures to prevent long-term harmful impacts on health outcomes.
- Investing in service delivery innovations can boost resilience during disruptive events.

Abstract citation ID: ckae144.1608
Barriers and enablers towards integrated care for sexual violence victims in humanitarian settings

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Background: Sexual violence (SV) is a complex public health issue that necessitates a coordinated multisectoral response. Ideally, this response should be provided through an integrated care package to strengthen timely access and comprehensive care for victims. However, in humanitarian settings with high levels of SV, care is often offered through fragmented silos, exacerbating the burden on the health workforce and victims.

Methods: Using the Valentijn framework, a qualitative, real-time Delphi study was conducted with 17 SV care experts representing 7 geographical subregions to gain informed opinions on key contextual and health system barriers and enablers for integrated care for SV victims in humanitarian settings.

Results: Challenges and enablers reported across the diversity of the participants' contexts showed consistency. Contextual challenges included volatile contexts, collapsed health systems, and poor infrastructure. Professional challenges included a lack of expertise among healthcare providers (HCPs), high staff attrition, and compassion fatigue among HCPs. Health systems challenges included poor referral and coordination mechanisms, insufficient resources, misaligned donor-programme priorities and low prioritisation of SV comprehensive care. Key enablers reported were effective networking, community engagement, capacity building, co-locating services, participatory management, promoting staff's sense of ownership, digitalised information systems, and joint patient files.

Conclusions: The sustainability of integrated care for SV victims can be strengthened by ensuring HCPs access regular psychological support and training and are incentivised to provide quality care. Regular coordination among actors, including donors, can support integrating care that responds to patients' holistic needs. Further research is needed to assess HCPs' and SV victims' experiences of current service delivery and how to optimise integrated care in humanitarian settings.

Key messages:

- Addressing care providers challenges in humanitarian settings, such as high attrition, lack of training, psychosocial support, and burnout, can ensure proper integration of sexual violence care.
- Integration of sexual violence care demands systemic changes, including aligning donor-programme goals, building accountability mechanisms and the buy-in of political and community leaders.

Abstract citation ID: ckae144.1609
Clinical coordination in cancer diagnosis: healthcare stakeholders' viewpoints in Latin America

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Background: Delays in diagnosis contribute to increasing cancer mortality rates in Latin American countries due to, among others, highly fragmented healthcare systems. The objective of this study, part of a larger research project (EquityCancer-LA), was to analyze cross-level coordination during cancer diagnosis and factors influencing it from healthcare stakeholders' perspectives in Chile, Colombia, and Ecuador.

Methods: This descriptive-interpretative qualitative study was based on 114 semi-structured individual interviews in 2022-23 using a criterion sample of health professionals from primary care (PC) (n = 40) and secondary care (SC) (n = 44) as well as managers and policy makers (n = 30) from two public healthcare networks in each country. Sample reached saturation. A thematic analysis was conducted first by country and then comparatively, guided by the theoretical framework of clinical coordination.

Results: In all countries, informants highlighted limited cross-level exchange of information and limited coordination of clinical management, delays in referral, and long waiting times after referral, leading to diagnostic delays. Factors hindering coordination differed across countries: structural (insufficient personnel, access to diagnostic tests in PC); organizational (limited/inadequate coordination mechanisms, e.g. shared clinical records; poor working conditions); and health professional characteristics (limited knowledge and skills among PC doctors). Direct feedback was emphasized to facilitate coordination of cancer diagnosis: virtual joint clinical conferences in Chile, co-location of PC and SC in Colombia, and informal networks (based on personal contacts) in Ecuador.

Conclusions: The findings underscore the critical coordination problems contributing to delays in cancer diagnosis. Addressing these challenges requires strategic interventions aimed at strengthening primary care and fostering cross-level coordination.

Key messages:

- Cancer diagnosis in Latin America suffers from coordination deficits due to structural, organizational, and professional factors.
- Strengthening primary care and cross-level coordination is needed.

Abstract citation ID: ckae144.1610
Reducing Emergency Room's overcrowding

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Introduction: The ageing of the population and the consequent increase in the epidemiology of chronic diseases pose numerous challenges at both hospital and territorial levels. In this context, one phenomenon that deserves particular attention is the frequent use of emergency services by 'frail' people. The aim of our study was to identify the most frequent users of the University Hospital's Emergency Room (ER) of Siena, based on their care at territorial level.

Materials and methods: A retrospective study was carried out on the data of accesses to the ER of the University Hospital's of Siena from June to September 2023. Patients were stratified according to the number of admissions, excluding those with only one admission during the study period. After identifying those with four or more accesses, the USL-TSE management system 'Astercloud' was used to check whether they were in integrated home care (ADI) or planned home care (ADP). Descriptive analysis was performed using STATA software.

Results: During the study period, 2347 patients were admitted to the ER, 78.95% had two admissions, 14.96% had three, 4.26% had four, 1.24% had five, 0.34% had six, 0.13% had seven, 0.09% had eight and, finally, 0.04% had eleven admissions. 93.1% of the sample had fewer than four admissions (2,204 patients), while 6.1% had four or more admissions (143 patients). Of the 143 patients studied, 16.1% were in home care, 13.3% in ADI and 2.8% in ADP. 36.8% of patients in ADI died within 4 months of the last admission during the period studied.

Conclusions: Our results suggest that the identification of people at risk of frequent use of the ER seems essential. Equally important is the existence of effective coordination and cooperation between hospitals and the community, with special attention to certain categories of patients. All of this is aimed to achieve overall appropriateness and therapeutic effectiveness, thus avoiding inappropriate admissions to the ER.

Key messages:

- Significance of identifying individuals prone to frequent use of emergency services to underscore the need for proactive management strategies to address their healthcare needs.
- Coordination and cooperation between hospital facilities and community-based services to enhance appropriateness of care and reduce inappropriate Emergency Room admissions.

Abstract citation ID: ckae144.1611
A systematic review of cancer overdiagnosis in multimorbid patients

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Background: Cancer screening looks for early signs of cancer in people who do not currently exhibit symptoms. However, screening can also identify abnormalities that do not progress to produce symptoms or death. This could include the identification of tumours, which stop growing or grow very slowly; patients usually die with them rather than from them. We systematically reviewed the literature to investigate the harmful consequences of cancer overdiagnosis in multi-morbid patients.

Methods: We followed the PRISMA reporting guidelines and registered the review with PROSPERO (CRD42024475175). A Population, Intervention, Comparator, Outcome and Study design (PICOS) framework was used as an organising framework. Peer-reviewed studies were included except case series, case report reviews and conference abstracts. Four large databases (Medline, Embase, APA Psych INFO and Scopus) were searched in Nov23 using appropriate keywords grouped into categories: multimorbidity, overdiagnosis, patient harms, cancer screening. Titles were screened according to the eligibility criteria and their quality assessed. Studies needed to have investigated the extent of harm caused by overdiagnosis (e.g., overtreatment).

Results: A total of 200 articles were retrieved, with seven meeting our inclusion criteria. All included studies were based in the US. Breast and prostate cancer overdiagnosis was reported to be 15% higher in multimorbid populations compared to the average-risk population. Multimorbid individuals were more vulnerable to the harms of cancer overdiagnosis, with psychological, physical and financial harms reported.

Conclusions: These findings contribute valuable insights into the intricate interplay between comorbidities, cancer overdiagnosis, and associated harms. Radical treatment interventions in multi-morbid patients can carry greater risk of complications. Current screening guidelines only address average-risk populations; future guidelines need to reflect these findings.

Key messages:

- Cancer overdiagnosis was found to be higher in multimorbid populations compared to the average-risk population.
- Multimorbid individuals are also more vulnerable to the harms of cancer overdiagnosis.

Abstract citation ID: ckae144.1612
Factors influencing an advanced nursing practice service for people with intellectual disabilities

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Background: People with intellectual disabilities (PWID) have less access to preventive healthcare services and are therefore more likely to suffer from certain chronic diseases. Advanced Practice Nursing (APN) can be a suitable approach for this group. However, APN is not yet widespread in all European countries. This intervention focuses on PWID in Hamburg, Germany, who receive case management and prevention focusing on stress, nutrition, mobility and addiction through community-based APN to improve their health status. We aimed to explore the facilitators, barriers and experiences of stakeholders in the context of the APN intervention.

Methods: We conducted 90 semi-structured problem-centered interviews with PWID, family members, professional caregivers and prevention service providers in 2023 and 2024. We employed convenience sampling. Data were analyzed by qualitative content analysis with mixed inductive-deductive coding using MAXQDA.

Results: Overall interviewees were satisfied with the intervention. It was reported that the clients exercised more, ate healthier, learned techniques to reduce stress and coped better with addiction. In addition, barriers to preventive services were reduced. We identified factors that positively influenced the success of the intervention: good interprofessional collaboration, successful relationship building with clients, concise goal setting and target group-specific work materials. Barriers were: neglect of the professional care network, difussion of agreements, lack of available prevention services, and communication problems. The results are preliminary.

Conclusions: This is one of the first evaluation studies of an APN intervention for PWID in Germany. The results show that this new form of care can be implemented if the relevant stakeholders work together and good relationships with the clients are established. Specific goals should be defined and the professional carergivers should develop a community network.

Key messages:

- APN is a suitable approach for disease prevention and health promotion for people with intellectual disabilities, given interprofessional collaboration and a well-established relationship with clients.
- Preventive healthcare for the target group is difficult to implement if the stakeholders do not work together and if there are insufficient suitable preventive services available in the community.

Abstract citation ID: ckae144.1613
Advanced nursing practise as a preventive approach for adults with intellectual disabilities

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Background: Various barriers impede access to preventive health services for people with intellectual disabilities in Germany. As a result, they are more likely to suffer from certain chronic diseases. Internationally, Advanced Nursing Practice (ANP) has proven to be a suitable approach to care for this group. In Germany, ANP is not yet widespread. The aim of this study is to improve healthcare for people with intellectual disabilities through ANP-led case management.

Methods: A randomized controlled trial was conducted in an urban community setting. Inclusion criteria were: ICD-10 diagnosis F70-F79, age ≥ 18 and care level ≤ 3. The intervention group (IG) received four outreach home visits focused on prevention and health promotion. The control group (CG) received usual care. Allocation was done using computer-assisted, permuted block randomization. Researchers were blinded during data collection and analysis. The primary outcome was health status after 12 months (t2) (WHODAS). Secondary outcomes were health status after 6 months (t1), health-related quality of life (HQOL) after 6 and 12 months (EQ5D-VAS), and resilience after 6 and 12 months (RS-11). Analysis was performed via ANCOVA with Bonferroni correction at a significance level of 0.025.

Results: 214 participants were randomized. At t2, 176 participants remained (IG: $n = 85$, CG: $n = 91$). Health status at t2 showed a mean difference (MD) of -4.58 points in favor of the IG ($p = 0.01$). For resilience, a MD of $+1.95$ (t2) points in favor of the IG was obtained ($p = 0.05$). We measured a MD for HQOL of -1.19 ($p = 0.72$) in favor of the CG.

Conclusions: A clinically relevant effect of ANP-led case management was achieved on the health status, but not on resilience and HQOL. ANP for people with intellectual disabilities can contribute to health promotion and thereby improve the community health. Therefore, ANP can be used as an innovative approach in the course of reorganization of healthcare for vulnerable populations in Germany.

Key messages:

- ANP-led case management can have a clinically relevant effect on the heal status of people with intellectual disabilities over the course of one year.
- ANP-led case management can be seen as a new approach to health promotion and disease prevention in Germany.

Abstract citation ID: ckae144.1614

Experiences with paediatric hospital health care: a cross-sectional study among paediatric patients

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Background: The measurement of patient experiences is gaining importance in many healthcare systems, including the Slovenian one. The need for a national survey on patient experiences in the paediatric inpatient settings emerged recently.

Methods: The survey took into account various aspects of inpatient healthcare such as admission, hospital staff, safety, food and discharge from hospital. As part of the study, children/parents were able to give praise and suggestions for improvements. We used three different questionnaires adapted to the cognitive abilities of children - a child questionnaire for the age group 9-13 years in paper form, an online adolescent questionnaire for the age group 14-18 years, and an online parent questionnaire for the age group 0 (1 month)-8 years. The questionnaires were cognitively tested and piloted before national rollout.

Results: The national survey was conducted between September 2023 and March 2024 and included paediatric patients who spent at least one night in an acute paediatric hospital ward. The survey included 25 paediatric wards and totally 1965 questionnaires were valid for analysis. The rough response rate was 17,6 %. The first preliminary results of the qualitative analysis suggest that surveyed paediatric patients and their parents rate highly inpatient health care services received, however they point out also to areas that need improvement such as environmental factors (noise, temperature), food, infrastructure (outdated facilities & equipment) and in some cases attitude of hospital staff.

Conclusions: National institute of public health carried out the first national survey on paediatric patient reported experience measures in acute hospitals in Slovenia. The results of this survey will be used to improve the quality of inpatient health care services in paediatric wards, as well renew focus on the requirements of European charter of children rights and United Nations Convention on the Rights of the Child.

Key messages:

- National institute of public health carried out the first national survey on paediatric patient reported experience measures in hospitals in Slovenia.
- The results of this survey will be used to drive hospital quality improvements.

Abstract citation ID: ckae144.1615

Who took care of patients with diabetes during the COVID-19-pandemic? A registry-based study

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Background: The rise of people with chronic diseases strains our healthcare system. Chronic disease management programs (CDMP) provide accessible care for patients with a chronic disease, aiming to prevent further development of the disease and avoid the need for (more costly and severe) hospital treatments. During the COVID-19 pandemic, CDMP provided at general practices (GP) for diabetic patients were downscaled. It remains unknown whether this downsizing led to increased care in other healthcare settings. We examined the changes in healthcare utilization by Dutch diabetic patients in 2020 and 2021 compared to 2019 regarding; 1) CDMP consultations, 2) hospital care for diabetes and 3) regular GP care.

Methods: In this retrospective observational study, data from electronic health records of GPs, participating in Nivel Primary Care Database, of 15,247 Dutch diabetic patients who were enrolled in CDMP, were linked to hospital claims data. Differences in healthcare utilization in 2020 and 2021 compared to 2019 were assessed quarterly using regression analyses.

Results: Results show that CDMP care was notably lower in 2020 and 2021, compared to 2019 (-35%). From Q1 2021 onwards, patients received more hospital care for diabetes (+13%) and regular GP care increased from Q3 2020 onwards (+14%). Compared to 2019, reduced CDMP contacts in 2020 were significantly associated (p = 0.001) with increased regular GP care in 2021. In the short-term, decreased CDMP in the first half of 2021 was significantly associated with increased regular GP care (p = 0.033) and hospital care (p = 0.037) in the second half of 2021.

Conclusions: Temporarily downscaling CDMP care during the COVID-19-pandemic was associated with increased hospital and regular GP care for diabetic patients. These findings contribute to making informed decisions regarding measures during future pandemics.

Key messages:

- Chronic disease management programs at GPs appear to be effective in preventing disease exacerbations, and may help prevent (expensive) utilization of hospital care.
- This research prompts further investigation into the desirability of CDMPs among patients, GPs, hospitals and policymakers, crucial for assessing undesirable healthcare shifts in diabetic patients.

Abstract citation ID: ckae144.1616
Substitution of care through the eyes of Dutch health insurers: a qualitative study

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Objectives: The objective of health policy measures in the Netherlands is to promote the substitution of care from hospitals to general practitioners (GPs), with reimbursement facilitating this shift. Given that health insurers are tasked with healthcare reimbursement in the Netherlands, understanding their experiences regarding care substitution is crucial.

Methods: First, informal interviews were held with employees from the Dutch Ministry of Health, Welfare and Sports, the National Health Care Institute and the Netherlands Institute of Health Services Research to construct the topic list. Then, we conducted semi-structured interviews with 15 employees from 7 health insurers, including healthcare purchasers, strategists, client relations executives, and business analysts, between February and April 2024. Transcripts were analyzed in MAXQDA by two researchers, after member checking.

Results: Insurers navigating substitution face a complex interplay of competition and collaboration, lacking a comprehensive framework. Long-term agreements with hospitals and GPs are seen as potential solutions, contingent on building trust. Diverse views on insurers' roles emerge, from passive reimbursement to active infrastructure support. Budgetary constraints vary, with some insurers feeling constrained by national budgets for GPs and hospitals while others perceive more flexibility. Risks equalization and deductibles are identified as hindrances to substitution efforts, necessitating changes in financial incentives.

Conclusions: Overall, addressing these complexities requires aligning incentives and balancing collaboration and competition to optimize resource allocation to effectively meet evolving healthcare needs. A comprehensive framework to balance collaboration and competition might be helpful.

Key messages:

- Understanding insurers' views on care substitution is vital for healthcare policy in the Netherlands.
- A comprehensive framework is needed to balance collaboration and competition, aligning incentives effectively.

Abstract citation ID: ckae144.1617
Effectiveness of a policy to reduce non-urgent night-time consultations in out-of-hours services

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Background: The utilization of Out-of-Hours General Practice (OOH-GP) services in the Netherlands has been increasing steadily. This has placed significant pressure on triagists and GPs to provide accessible and high-quality care, particularly because of patients with low-urgency health problems, who can wait to visit their GP during regular working hours. To alleviate the strain on OOH services during the night, the "spoed=spoed" policy has been implemented. This policy stipulates that only patients with urgent health problems can consult with a GP during the night (11 p.m. to 8 a.m.). However, it remains unclear whether this policy has effectively reduced consultations during the night.

Methods: For this study, we used pseudonymised data from electronic health records of 2/3 of Dutch OOH services (catchment area of 12.3 million), from Nivel Primary Care Database, from 2020-2023. We analysed the effects of the policy on contact rates and proportion of high-urgency health problems, by comparing OOH services that did and did not implement the policy, by comparing 6 months before and after implementation and by analysing variances across OOH services.

Results: Overall, there were no differences in the number or proportion of high-urgency consultations across OOH services that did and did not implement spoed=spoed. In those that did, there were no differences before and after implementation. However, certain OOH services exhibited a decrease in consultation, while also showing a higher proportion high-urgency health problems.

Conclusions: There is currently no definitive evidence regarding the effectiveness of "spoed=spoed". However we should learn from the varied effects and experiences in different OOH-services, to facilitate further implementation or adaptation of the policy.

Key messages:

- OOH services can and should learn from each other on what solutions are implemented to lower the care-burden during the night.
- Policies aimed at reducing the utilization of OOH serviced should consider the conaxt from the patient, health care provider and organization.

Abstract citation ID: ckae144.1618
Time-dependent networks for the treatment of acute coronary syndrome in South East Tuscany

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Introduction: The importance of timely reperfusion therapy in Cardiovascular diseases is crucial, leading to the creation of time-dependent networks for Acute Coronary Syndrome treatment. The ACS-STEMI treatment network in Tuscany operates across three health authorities (LHAs),including South-East Tuscany. The network ensures ACS-STEMI treatment in 12 hospitals integrating new territories such as Piombino and Elba into the network. Aim of the study is to assess the impact of an analytical monitoring system of the times to reperfusion treatment and the actions to improve the performance of the network.

Methods: In this retrospective study an analytical evaluation of the network's performance was conducted. We utilized data on patient transport, symptom onset to medical contact times, and outcomes from the National Outcomes Program (PNE).Analytical evaluations in 2021 measured the network's performance, identifying main delay causes. The treatment process is divided into periods from symptom onset to coronary reperfusion, and interventions like public campaigns, ECG transmission and fast-track transfers have been implemented.

Results: South East Tuscany LHU had the lowest 30-day mortality rate for ACS patients in Italian hospitals with 300 cases annually in 2020 and 2021.Improvements continued into 2022 and 2023, further reducing mortality rates in patients initially admitted to SPOKE hospitals. For Piombino and Island of Elba residents,30-day mortality decreased from 8.8% (2017-2020) to 5.7% in 2022. The Grosseto hub treated 80% of STEMI patients within 90 minutes in 2022.

Conclusions: The establishment of a well-organized time-dependent network for ACS-STEMI treatment in Tuscany has significantly improved patient outcomes, demonstrating the critical role of timely and efficient care pathways. The network's success is attributed to several factors, including improved accessibility, enhanced coordination among healthcare facilities, and effective use of technology and resources.

Key messages:

- Treatment networks for ACS/STEMI can improve health outcomes in peripheral areas.
- Structured clinical-care pathways in delivering high-quality care for ACS patients reduces ACS mortality.

Abstract citation ID: ckae144.1619
Chronic Illness and visiting clinic before hospitalization at the onset of Stroke: Shiga Registry

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Background: Prompt action at stroke onset is required to improve prognosis. Some previous studies indicated that visiting local clinics may initially delay access to specialized care. We examined the relationship between the presence of chronic diseases known as risk factors for stroke and visiting a local clinic before admission to the hospital for acute stroke care.

Methods: This study utilized data from stroke patients aged 18 and older who were registered in the Shiga Stroke and Heart Attack Registry (SSHR) from January 2011 to December 2015. We excluded cases with onset during hospitalization or those with impaired consciousness assessed by the Japan Coma Scale (JCS $>=$10). The presence of comorbid chronic diseases was determined based on the past history and medications presented at admission. Local clinics are defined as clinics or hospitals that are not equipped to provide acute stroke treatment. Multivariate logistic regression analyses, adjusting for sex, age, modified Rankin Scale score before onset, and stroke subtypes, were performed to calculate odds ratios and 95% confidence intervals for visiting a clinic before hospitalization according to the presence of chronic diseases such as hypertension, diabetes, dyslipidemia, and atrial fibrillation, respectively.

Results: Data from 11,111 out of 14,620 registered cases were analyzed. Among these participants, 5,774 had hypertension, 1,951 had diabetes, 2,111 had dyslipidemia, and 882 had atrial fibrillation. A total of 2,405 (21.6%) cases visited a local clinic at stroke on set. The adjusted odds ratios for visiting clinics by the presence of hypertension were (1.22, 95% CI: 1.11 -1.34), diabetes (1.14, 1.01-1.28), dyslipidemia (1.07, 0.95 -1.20), and atrial fibrillation (0.80, 0.67 -0.95).

Conclusions: The present study indicated that individuals with hypertension and/or diabetes are more likely to initially visit a local clinic at stroke onset, whereas those with atrial fibrillation were not.

Key messages:

- Approximately 20% of mild stroke patients first consult local or primary care doctors at stroke onset. This trend was particularly observed in individuals with hypertension and diabetes.
- Emphasizing the need for direct access to specialized emergency care for individuals with chronic diseases is important to avoid delays in acute stroke care.

Abstract citation ID: ckae144.1620
How to improve informal caregiver's quality of life and health literacy? – a NGT approach

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Background: Previous studies revealed that informal caregivers have a large number of unmet needs, reinforcing the necessity of national policies that ensure an adequate sustainability of the provision of informal care and takes into account the needs of caregiving dyads in the planning process. This study aimed to identify and consensualize initiatives and action strategies to improve the Portuguese Informal Caregiver's reality and health literacy levels.

Methods: A Nominal Group Technique (NGT) was conducted with 10 experts. The NGT panel was asked about feasible action strategies to improve informal caregiver's reality, consensualized and voted them according to perceived relevance in a semantic differential (1 pts to nothing relevant and 6 pts to very relevant), allowing a score calculation.

Results: Thirty-two initiatives emerged from the NGT. The five most relevant initiatives were identified based on an average score namely: 1) Pressure political decision-makers on the need for an effective implementation of the Informal Caregiver status, which is not being done (score=56); 2) Creation of a specific emergency social line for informal caregivers, as a measure of greater equity (score=52); 3) Raise employers awareness about caregiving demands (score=52); 4) Creation of a proximity social manager, linked to primary care services, that facilitates caregiver connection to health and social care services (score=51); 5) Decentralization of respite care services support, with multidisciplinary teams (score=49).

Conclusions: The informal caregiver's role needs to be recognised and understood by healthcare and social care providers. (Re)design political, economic and social policies that address both caregiver and care recipients' needs is critical to enable the continuity of informal care provision.

Key messages:

- Informal caregivers play a fundamental social role but still have many needs to be addressed, particularly at the level of the official definition of their role.
- (Re)design political, economic and social policies targeted to informal carers is imperative to enable the continuity of informal care provision.

Abstract citation ID: ckae144.1621
The WHO health system performance assessment applied to child healthcare in Luxembourg, 2011-2022

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Background: Health System Performance Assessments (HSPAs) evaluate health systems in terms of their objectives and their overall goals, such as access to quality services and health improvement. Beyond the overall health system assessment, HSPA can evaluate performance in providing care to specific populations. We assessed the response of the Luxembourg health system to children's particular health needs, by populating the WHO HSPA framework for universal healthcare with child-specific indicators.

Methods: We searched international databases, guidelines, policy documents, and the scientific literature to identify child-specific indicators suitable for assessing the health system objectives as defined by the WHO HSPA framework. To select the most relevant indicators, we conducted expert appraisal regarding feasibility, validity and actionability. Those indicators were calculated based on available national data. To explore inequities within the system, we performed socioeconomic stratifications.

Results: Twenty-nine indicators were used to populate the framework, sourced from social security databases ($n = 15$), monitoring and surveillance ($n = 11$), and surveys ($n = 2$). For effectiveness assessment, we used 11 indicators and found that preventive services performed best for children under two years. Five indicators showed good accessibility to primary and secondary care. Another five indicators assessed safety indicating a recent increase in the relative use of broad-spectrum antimicrobials and an overuse of caesarean sections. Additional disaggregation of three indicators didn't expose socioeconomic inequities in service delivery. Data gaps exist to assess children's user-experience and financing of child health services.

Conclusions: The WHO HSPA framework proved valuable for evaluating the Luxembourg health system's performance for children. We identified good performance in accessibility and effectiveness for young children, alongside data gaps to assess user-experience.

Key messages:

- The application of national child-specific indicators to the WHO health system performance assessment, highlighted strengths in accessibility and effectiveness while also pointing to key data gaps.
- We used the WHO health system performance assessment (HSPA) to evaluate the health system for children in Luxembourg. This exercise enhances the development of a tailored national HSPA framework.

Abstract citation ID: ckae144.1622
Managing no-shows in healthcare: insights from an urban Health District in Northern Italy

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Background: Non-attendance at healthcare appointments, known as no-show, poses significant challenges to healthcare systems, disrupting patient care continuity, exacerbating waiting times, and straining resources. Addressing this issue is crucial for optimizing health care delivery and containing costs. This study explores the phenomenon of patient no-shows and aims to identify factors associated in a densely populated healthcare district in Turin, Northern Italy.

Methods: Data were extracted from the healthcare management system covering outpatient care appointments in the health district in 2022 and 2023. The analysis included various patient and service-related variables. Missing information on key variables were managed with listwise deletion. Descriptive statistics provided an overview of missed appointment rates, while multivariate analysis explored various patient and service-related variables.

Results: A 5.1% ($n = 6198$) no-show rate was observed out of 120,405 records. The total cost incurred due to missed appointment fees amounted to €127,244. Several factors were associated with a significantly increased likelihood of no-show ($p < 0.05$), including initial visit ($OR = 1.11$), deferred priority ($OR = 1.22$), non-exempt status from healthcare co-payments ($OR = 1.36$), exemption based on income ($OR = 1.82$), age under 18 ($OR = 2.46$) and under 65 ($OR = 2.32$), male gender ($OR = 1.17$), residency outside the Piedmont Region ($OR = 1.31$) and outside Italy ($OR = 2.46$), and longer waiting time ($OR = 1.01$).

Conclusions: This study sheds light on the widespread issue of patient no-shows and its economic implications. It provides clear direction for implementing tailored interventions in healthcare settings. As a response to these findings, a telephone recall project was launched. Its efficacy will be evaluated in subsequent assessments to determine if it can effectively alleviate the burden of no-shows, thus enhancing healthcare efficiency and ensuring continuity of care for patients.

Key messages:

- The no-show phenomenon has important implications both organizationally and economically.
- The magnitude and major determinants of patient no-shows must be recognized to guide the deployment of tailored interventions in a real-world setting.

Abstract citation ID: ckae144.1623
Cost-effectiveness analysis of Chagas disease screening in pregnant women and their infants in Italy

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Background: Currently, Chagas disease (CD) is widespread in European nations that host notable populations from Latin America. Vertical transmission is a pathway for the spread of the disease in countries where it is not endemic. Due to socio-economic disparities, CD is a public health concern in non-endemic regions, raised by migration phenomena in vulnerable population groups who face similar hindrances as those most at risk in endemic areas. The aim is to evaluate the cost-effectiveness of CD screening versus no screening in pregnant women and their infants in Italy.

Methods: A Bayesian Markov model was employed to compare the CD screening versus the no screening alternative. Model parameters were sourced from pertinent scientific literature. A lifetime perspective was adopted, aligning with the perspective of the Italian National Health Service. The Eurozone threshold was applied. Costs and benefits were discounted at a rate of 3%. Gibbs sampling served as the algorithm for Bayesian inference. Uncertainty was addressed through a probabilistic sensitivity analysis (PSA) and a value of information analysis (VOI), depicted via the Cost-Effectiveness Acceptability Curve (CEAC) and Expected Value of Perfect Information (EVPI). Results were presented as the Incremental Cost-Effectiveness Ratio (ICER).

Results: The base case results showed that CD screening was cost-effective, with an ICER of €5,112 [€1,850 - €10,043]. Furthermore, according to the CEAC, the screening option exhibited the greatest probability of being cost-effective across all thresholds. Additionally, the EVPI per mother was €818 based on a threshold of €50,000/diagnosis.

Conclusions: Implementing a structured CD screening program also in non-endemic countries has the potential for early detection and treatment. This contributes to SDG 3 by improving access to healthcare, preventing transmission, and reducing the disease burden as well as informing public health policies for marginalised populations.

Key messages:

- This study proves that screening for CD in pregnant women and their infants in a non-endemic area is a cost-effective strategy and possibly cost-saving in the long term.
- Study findings could support a wider implementation of CD screening in Italy by informing health policy-makers in their decision-making process.

Abstract citation ID: ckae144.1624
The meaning of organizational culture and structure for interprofessional collaboration

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In Germany, early neurological rehabilitation (ENR) acts as a link between acute inpatient care and rehabilitation, aiming to restore patients' ability to rehabilitate amid their complex clinical conditions. Interprofessional cooperation (IPC) is crucial for harmonized treatment due to patients' vulnerability. An interprofessional team comprising medical, nursing, and various therapy professionals is essential for this purpose. To explore the meaning of organizational culture and structure to IPC, 15 group discussions in 5 clinics were conducted with $n = 76$ participants.

1. Weekly team meetings are used to coordinate treatment goals and outcomes, but their implementation varies from clinic to clinic. Two types of meetings were identified: those that focus primarily on billing compliance and others that address patients' long-term perspectives. However, both require additional social service involvement and are not sufficient to adequately address daily tasks, requiring additional IPC coordination. Some clinics have therefore introduced daily meetings to improve the coordination of IPC tasks.

2. Therapy planning and therapist assignment shape IPC and task fulfillment. Three therapy planning methods were observed: centralized, block-based, and flexible, each with different therapist allocation strategies. Centralized planning with flexible allocation leads to appointment pressure and interprofessional communication challenges. Block therapy reduces therapist turnover and promotes better interprofessional coordination in patient care. Flexible therapy planning is conducted through daily interprofessional meetings with shared task allocation and planning leads to a shared understanding.

Initial analysis underscores the meaning of organizational structure on interprofessional task fulfillment in ENR, emphasizing the importance of enhancing different cooperation formats which can balance stability and flexibility and integrate social services effectively in patientcare.

Key messages:

- Morning interprofessional meetings on the ward facilitate flexible responses to daily changes in patients' health conditions and promote interprofessional collaboration.
- The consideration of occupational group-specific processes in ward organization is a necessary structural prerequisite for successful interprofessional collaboration.

Abstract citation ID: ckae144.1625
Overcoming non-usage of e-mental health: A qualitative study in a Dutch general practice

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Background: Worldwide percentages of people with mental health problems are substantial and increased during the COVID pandemic (to about 25 % in the general population). E-mental health has potential to help with waiting lists, rising health care costs and work pressure. To reach the desired effects, participants need to use the technology as intended. Non-usage though is a common problem. Research question is: what elements obstruct the intention to use e-mental Health interventions, plus what are barriers to bridging the intention-behaviour gap?

Methods: In a qualitative study, semi-structured interviews were conducted (interview guide). We recruited patients who were invited for an e-mental health intervention in a Dutch general practice but did not start the intervention. Data saturation occurred with 11 patients. Open, axial and selective coding was done on the transcribed interviews using the software ATLAS.ti.

Results: Five main themes were associated with non-use: 1) 'Expectations about the eHealth in general' were neutral to positive. 2) 'thresholds to start e-mental health' were: negative expectations about the content, lacking mental capacity due to mental problems, missing personal contact, the therapy with the mental health professional in general did not fit their needs or aversion towards more screen time. 3) 'lack of planning'. 4) lacking encouragement from mental health professional 5) 'Expectations from therapy in general'. (a.o. face-to-face contact and tailoring)

Conclusions: Embedding the e-mental health more into regular therapy has potential to overcome non-usage. The mental health care professional has social influence to increase usage, by a clear and convincing introduction plus joint review of the exercises during consultations. This study needs to be repeated in other clinical settings. Future research should also include age (computer use) and disease prognosis to define when e-mental health is a suitable solution for patients.

Key messages:

- E-mental health interventions have potential to help with waiting lists, rising health care costs and workload, but non usage is a problem.
- Embedding the e-mental health more into regular therapy has potential to overcome non-usage.

Abstract citation ID: ckae144.1626
Health care provider payment schemes in Central and Eastern European countries

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Background: Health care provider payment schemes are key elements of the health care system that influence providers behavior, quality of care, and efficient use of resources. In recent decades, Central and Eastern European (CEE) counties have implemented various reforms that have changed payments methods and other elements of the purchasing process. The aim of the study was to provide an overview of the current provider payment schemes within the public health system in selected CEE countries and identify the main directions of their reforming.

Methods: Based on existing literature, a theoretical framework and data collection form were first developed. Next, desk research was conducted to collect data on provider payment methods and other elements of the purchasing process in primary care, outpatient specialized care, hospital care, and long-term care. The collected information was verified and supplemented though consultations with national experts. Nine countries were included: Bulgaria, Croatia, Czechia, Estonia, Latvia, Lithuania, Hungary, Poland, and Romania. The study was conducted in 2023.

Results: Capitation, fee-for-service, and case-based payments are the most commonly used methods in the analyzed countries. The countries are increasingly using blended payment methods. Primary and hospital care have the most diverse payment method mix and have experienced the most substantial changes in their payment schemes since 2010. The most common changes focused on modifying existing methods (detailing payment categories, changing the principles of tariff valuation), and introducing additional methods to pay for specific services or performance (fee-for-service, bonus payments).

Conclusions: CEE countries are following similar directions in reforming provider payment systems, with the goal of strengthening primary health care, shifting emphasis from inpatient to outpatient care and improving cooperation between health care providers.

Key messages:

- CEE countries largely use output-based methods to pay for health care services.
- Provider payment systems are becoming more blended as countries look for the most effective payment method mix to meet policy objectives.

Abstract citation ID: ckae144.1627
Documenting the availability and accessibility of reproductive health services for youth in Albania

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Youth in Albania are initiating sexual activity at an earlier age. However, use of all forms of contraception has declined in the last decade and uptake now stands at 4%. The self-reported prevalence of sexually transmitted infections (STIs) and STI symptoms has risen dramatically, as has reliance on abortion as a predominant method of family planning. In 2020-2022, we conducted a multimethod qualitative study in Albania to document the availability and accessibility of sexual and reproductive health (SRH) services and examine challenges that youth face when seeking SRH care. This study comprised a document review, a curriculum review, a community-based survey with 273 youth, semi-structured interviews with 15 youth, semi-structured interviews with 15 key informants, and a service mapping exercise in Tirana. Lack of adequate infrastructure and bureaucratic hurdles make it difficult for youth to navigate and access SRH services in Albania. A third of survey participants (n = 90, 33%) expressed discomfort inquiring about SRH matters, while nearly two-thirds rarely or never sought SRH services from a doctor or clinic. Furthermore, Albania's school-based sexuality education curriculum lacks in topics, content, and responsiveness, resulting in inconsistent learning experiences and limited knowledge of SRH. Sexuality education is primarily focused on the anatomy and physiology of reproduction, leading to significant knowledge gaps in other aspects of SRH. Only half of survey participants (n = 150, 55%) had received any education on birth control, contraception, or family planning; and only few had knowledge about gender identity (n = 103, 38%), or consent (n = 77; 28%). Widespread lack of awareness and fear of judgment contribute to the underutilization of SRH services among youth in Albania. Improving knowledge and awareness, alongside investing in infrastructure and capacities, are essential to enhancing accessibility and quality of SRH services for Albanian youth.

Key messages:

- Lack of knowledge and awareness prevent youth from accessing SRH services.
- Establishing youth-friendly services and training health providers and educators are crucial to delivering confidential and non-judgmental youth-friendly SRH care.

Abstract citation ID: ckae144.1628
Evaluation of the Beneficial Parenting Partnership Model Assimilation in Parent-Infant Centers

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Background: The Beneficial Parenting Partnership (BPP) model is being implemented in Parent-Infant Centers (PIC) across Israel to improve the partnership skills of PIC nurses when working with parents, promote child development, and enhance parental well-being. This initiative is being led by the Israeli Ministry of Health, Goshen NGO, and Lotem company and is supported by the Yad Hanadiv and Bernard van Lear foundations.

Methods: The first data collection (T1) was held from December 2022 to January 2023 among 706 parents of children aged two weeks to 36 months (M = 8.17 months, SD = 7.48) who visited one of 18 PICs. Research assistants approached the parents and asked for their agreement to fill in the study questionnaire. Of these, 328 parents agreed to participate in the follow-up study (T2) held in January-February 2024 using a telephone survey. Differences in the parent's satisfaction, visit experience, and parental well-being were assessed using parried sample T-tests. A linear regression model was calculated to assess the factors predicting the increase in the parent's visit satisfaction.

Results: Significant differences were measured between T1 and T2 in parental satisfaction (M = 4.51 and 4.71 retrospectively,

$P < 0.001$), parental positive visit experience ($M = 4.58$ and 4.68 retrospectively, $P = 0.019$), and parental well-being ($M = 3.81$ and 3.97 retrospectively, $P < 0.001$). Findings suggest a marked improvement in satisfaction, visit experience, and reported well-being after a year of BPP model assimilation among PIC nurses. The regression model, explaining 42% of the variance in increased parental satisfaction, indicated that a higher increase could be predicted by a higher increase in positive visit experience and a higher trust level in the PIC nurse at T1.

Conclusions: The BPP model's assimilation among Israeli PIC nurses was successful, resulting in improved parent experience, satisfaction, and well-being.

Key messages:

- The Beneficial Parenting Partnership model is well-suited for implementation among nurses working with parents of babies and toddlers to promote collaborative nurse-parent communication.
- During routine meetings at Parent-Infant Centers, nurses can act as a catalyst for promoting parental well-being.

Abstract citation ID: ckae144.1629

Productivity and consultation times in Portuguese primary care: trends and payment model variations

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Background: Portugal faces a shortage of primary care workforce resulting in an increase in patients without Family Physician (FP). While expanding the patient list per FP may help, it could also result in excessive workloads, compromising Consultation Times (CT) and quality of care. Furthermore, it is important to study the role of the primary healthcare (PHC) financing model in incentivizing their productivity. This study aims to analyse the productivity and CT in PHC units in Portugal, variation over time, and differences across PHC unit payment models.

Methods: 6,563 PHC units with different payment models (salary at UCSP, salary and group pay-for-performance at USF-A, and salary, capitation, and individual pay-for-performance at USF-B) from 2015 to 2022 were analysed, including the annual numbers of medical and nursing consultations and full-time equivalents (FTE) of physicians and nurses. Weekly productivity (WP) was calculated using the consultations per FTE physician and nurse. CT were determined by dividing each FTE's weekly workload by WP. Multivariate analysis explored differences in CT between PHC units, temporal variations, and the influence of the patient population characteristics.

Results: FTE physicians had a mean WP of 117 consultations (SD 39) lasting 22.4 minutes (SD 7.0). FTE nurses had a mean WP of 56 consultations (SD 18) lasting 41.0 minutes (SD 14.3). Compared to UCSPs, USF-A and USF-B had shorter CT ($p < 0.05$) by 2.48 to 4.05 minutes for medical consultations and by 5.51 to 8.04 minutes for nursing consultations. CT increased over time, decreased with higher PHC age and favorable socio-demographic context, and increased with higher population density and elderly patients' proportion ($p < 0.05$).

Conclusions: USF-B professionals showed higher productivity and shorter CT, suggesting that financial incentives are effective in enhancing productivity but that gains may be obtained with losses in visit duration.

Key messages:

- Effective workforce management is crucial given the current primary care professionals shortages.
- Physicians and nurses in PHC units pay-for-performance exhibit higher productivity and shorter consultation time.

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Mapping patient pathways for NCDs from a policy perspective: a novel multinational initiative

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Background: Chronic diseases like CVD and DM pose global health challenges. Understanding patient pathways is vital for effective disease management and reducing morbidity and mortality. However, until now, comprehensive multinational mapping of patient pathways from a policy or regulatory perspective in the context of chronic disease has not been undertaken. Previous investigations into patient pathways mainly focused on the perspective of individual patients, assembling trajectories of those patients, but did not delve into how these pathways were designed.

Methods: Patient pathways for CVD and DM will be mapped across 11 countries: Belgium, Finland, France, Hungary, Iceland, Italy, Latvia, Poland, Romania, Slovenia, and Spain. Using a survey tool, detailed descriptions and diagrams of healthcare pathways will be collected, stratified by Kaiser Permanente health pyramid strata. Stakeholder interviews on policy and practice level will refine mappings and identify gaps in the policies.

Results: Preliminary findings reveal diverse healthcare trajectories and identified multiple gaps in disease management across countries. For many countries, a complete well-developed patient pathway was not found; instead, the pathways were rather fragmented and lacking for some strata of the health pyramid. These insights underscore the need for tailored interventions and enhanced care coordination to optimize continuity of care and patient outcomes.

Conclusions: Comprehensive patient pathway mapping offers a strategic framework to address gaps in chronic disease management. Our study emphasizes the importance of collaborative efforts in developing context-specific interventions and strengthening healthcare systems to improve public health outcomes.

Key messages:

- Comprehensive patient pathway mapping reveals numerous gaps in global chronic disease management, prompting the need for enhanced strategies.
- Collaborative efforts are key to addressing gaps in chronic disease care.

Abstract citation ID: ckae144.1631

Inequalities in access to early child services in Bulgaria

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Background: Children's health has been a major focus of European health policy since 2000, with particular emphasis on early childhood and integrated services for children with chronic diseases. However, research on early child care in Bulgaria is sparse, mainly focusing on the role of nurseries, kindergartens and nursing care. Our aim is to investigate whether there are disparities in access to early childhood health services in Bulgaria.

Methods: A survey was conducted among mothers of children up to 7 years old between April and June 2022. The questionnaire, containing 49 questions, was based on the theoretical framework from the EU project 'Models of child health appraise', covering topics as: geographical and financial access to services, equity, quality, responsiveness to children and family needs, considered key features of outpatient child medical care. Statistical analysis utilized Chi-square, Fisher's exact and ANOVA tests.

Results: A total of 413 Bulgarian women, with a mean age of 34.3 (± 5.1), participated in the study. Almost all women (91.3%) reported that their children had a primary care provider. The mean time to reach the GP/pediatrician's office was 16 minutes (95% CI 14.6 - 16.7), longest for residents of small towns and villages (21 minutes), $p = 0.004$. Parents from small towns (including villages) were six times more likely to experience financial difficulties related to their children's healthcare services compared to those from the capital city ($p = 0.047$), as well as parents with low-income ($p = 0.031$). Emergency healthcare was the most demanded service by families with children under 7 years old, possibly due to its free availability. Parents with secondary education and from small towns lack access to non-medical health-promoting or preventive services such as breastfeeding consultations, speech therapy and others.

Conclusions: Significant financial and geographic disparities in access to early child health services exist in Bulgaria.

Key messages:

- There are serious social health inequalities related to the access to outpatient child health services in Bulgaria.
- There is an urgent need for specific child and family health strategy based on the principles of proportionate universalism.

Abstract citation ID: ckae144.1632
Changes in TB contact tracing during the COVID-19 pandemic. An Irish single centre experience

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Contact tracing following the diagnosis of tuberculosis (TB) is a crucial process in the identification and treatment of both secondary TB cases and also infected contacts who may require treatment for latent TB infection. During the COVID-19 pandemic, Public Health and Respiratory teams in the St Vincent's University Hospital (SVUH) TB clinic in Dublin, Ireland, noted anecdotally that there appeared to be fewer contacts screened by public health services per index active TB case identified. To investigate this, we performed a retrospective review of the TB contact tracing service in SVUH, examining and comparing contact tracing of active TB cases in the 3 years prior to the pandemic (2017-2019) and four years thereafter (2020-2023). Results from 2017-2019 calendar years, prior to the COVID-19 pandemic noted an average of 4.77 contacts per index TB case (total 107 index cases and 510 contacts). In comparison, our data from 2020-2022 noted an average of 3.03 contacts per index TB case (total 59 index cases and 179 contacts). As pandemic restrictions were lifted again, we found our 2023 data to be more comparable to that of pre-pandemic times, noting 4.54 contacts per index case (total 22 index cases and 100 contacts). The reduction in TB contacts per index cases noted during the COVID-19 pandemic may reflect work and lifestyle changes over that time, particularly an increase in remote work but also social distancing. It is interesting that as the population emerged from the isolation measures of the pandemic, contact numbers returned quickly to pre-pandemic levels. In line with global concerns, our data highlights the ongoing workload of TB contact tracing locally and the importance of resource allocation for these services.

Key messages:

- Our Irish centre experienced a notable but temporary reduction in contacts requiring screening by public health services, per index active TB case, during the COVID-19 pandemic.
- In line with global concerns, our data highlights the ongoing workload of TB contact tracing locally and the importance of resource allocation for these services.

Abstract citation ID: ckae144.1633
Telemonitoring activities of daily living in home healthcare services to support aging in place

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Context: Assessing older adults' abilities to carry out their activities of daily living (ADLs) is a key determinant in the provision of homecare services for aging in place. Amidst a growing aging population and lack of human resources, continuous remote monitoring technology appears promising to support health and social care professionals (HSCPs) in identifying service needs. However, implementation studies conducted in real-life settings are lacking. This study is part of an on-going action design research project aimed at developing an ambient telemonitoring system monitoring ADLs to support clinical decision making. It focused on the initial step of implementation and aimed to understand 1) which HSCPs would want to use the system, 2) for which care recipient they requested it, and 3) for which reasons.

Methods: A multiple embedded case study utilizing mixed methods was conducted across 3 healthcare establishments in Quebec, Canada. Descriptive statistics from surveys and medical records was conducted to describe the profile of HSCPs and their care recipients. An inductive qualitative analysis was carried out through interviews with 23 HSCPs, in charge of 31 care recipients, to deepen our understanding of the reasons why they requested the system.

Results: HSCPs were primarily women (89%) occupational therapists (43%). Home care recipients were also primarily women (74%), with documented refusal of homecare services (65%), diagnosed with cognitive decline (94%), and living in a single-family home or apartment (68%). Overall, interviews revealed HSCPs challenges in getting the necessary information to assess their care recipients needs, despite the presence of in-home services and other strategies in place (e.g. informal carer support). Moreover, the telemonitoring system was perceived as promising for risk management.

Conclusions: There is an interest for the use of ADL telemonitoring technology in the delivery of home healthcare services for aging in place.

Key messages:

- To facilitate its integration in practice, we explored the need for, and value of, ADLs telemonitoring technology by health and social care professionals (HSCPs) in real-life contexts.
- By studying the integration of innovative technologies in home healthcare practices, such as ADLs telemonitoring, we aim to support HSCPs practice in fulfilling older adults desire to age in place.

Abstract citation ID: ckae144.1634
A Framework for Bariatric Surgery Patient Care: Patient and Professional Perceptions

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Introduction: A multidisciplinary health team for perioperative care of the bariatric patient, sustained in a viable framework to support a long-term follow-up service, may decrease rates of complications, help the recognition of the complexity of this chronic disease, and provide a comprehensive bariatric surgery process analysis. This study aimed to analyze patients' and professionals' experiences with the perioperative care process and identify their perceptions of the bariatric surgery process to support the long-term management of obesity surgical treatment.

Methods: This qualitative study was conducted in a bariatric surgery center in south Portugal. Seven health professionals participated in one focus group, and sixteen patients participated in one of the three focus groups. Patients' focus group script had eleven open main questions with follow-up questions to probe for more information, addressing motivations, experiences with the pre-surgery and post-surgery process, and perceptions of lifestyle changes.

Results: Participants reported the need for a reference professional in the hospital to contact, the importance of psychological support to help patients deal with the 'ups and downs' of post-surgery life, and the financial support for physical activity programs.

Conclusions: This research helped identify a need for a framework for long-term follow-up and showed priorities to tailor health services for managing bariatric surgery patients. New bariatric surgery programs should incorporate a diverse health team, focusing on patient support in the long-term follow-up. This team should be led by a dedicated case manager and include physical activity specialists.

Key messages:

- The positive effects of bariatric surgery go beyond weight loss, reinforcing the importance of developing a new conceptual framework based on a patient-centered care model.
- A case manager specialist on the bariatric surgery process may be the key to improving the long-term benefits of bariatric surgery.

Abstract citation ID: ckae144.1635
Hospital satisfaction among older adults by European Union health system clusters

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Background: Health systems are influenced by political, historical, cultural and socio-economic factors and differ across countries. Classification of EU health systems into 5 clusters has allowed for international comparison and policy recommendations. This study is based on the Andersen's Behavior Model, that predicts that a sequence of predisposing, enabling and need factors influence satisfaction and utilization of healthcare services.

Aim: Examine the nature and relationship of predisposing, enabling and need factors associated with hospital satisfaction of older adults across EU nations by health system classification clusters.

Methods: Data from Wave 9, of the Survey of Health, Ageing and Retirement in Europe (SHARE) were examined using a sample of older adults from 10 EU countries. Analysis: Non-parametric one-way ANOVA (Kruskal- Wallis test) and Multinominal Logistics regression were performed to test the null hypothesis that (1) hospital satisfaction is equal across all clusters, and (2) predisposing, enabling, and need factors, are not predictors of hospital satisfaction.

Findings: There was a statistically significant difference in hospital satisfaction by cluster [Chi Square= 231.44, df = 21; p< .001]. Age, mental health, technology and chronic disease are predictors of health-care facilities satisfaction. [Chi Square 50.94, df = 3, p< .001], Among those that reported to be highly unsatisfied with healthcare facilities, [chronic disease (Beta = -2.64) and mental health (Beta = -4.41) df = 1 p< .001] significantly predicted hospital satisfaction. Implications for Policy and Practice: Initiatives for the care of older adults should not only aim to increase access to care but also provide targeted services for sub populations such as older adults with mental health and chronic diseases. Further, significant investment is required in technology infrastructure within hospitals and technological assistance or training should be provided to older adults.

Key messages:

- Older adults satisfaction with hospitals varies by health system clusters and is predicted by age, mental health, use of technology and chronic disease.
- Chronic disease and mental health are strong predictors of hospital dissatisfaction among older adults.

Abstract citation ID: ckae144.1636
Data ecosystem using smart home technology to support healthy aging

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Background: Smart home technology has been widely used to mitigate the challenges that population aging brings. However, the lack of a centralized data ecosystem has prevented these technologies from realizing their full potential. This project aimed to construct a data ecosystem compatible with smart home sensors to monitor healthcare for seniors, improving their quality of life.

Methods: The infrastructure was constructed using a user-centered design approach, allowing smart devices such as motion, temperature sensors to operate independently and communicate through a Wi-Fi mesh network. API technology provides a reliable channel for real-time data collection. To ensure data privacy and security, extracted data is hosted in a cloud environment that provides comprehensive data protection, and cloud computing is utilized for high-performance computation tasks. Analytical models such as Machine Learning can be implemented to recognize indoor activities, achieving the goal of remote monitoring.

Results: This data ecosystem advances in privacy and security, interoperability, accessibility, and data-sharing. Unified authentication mechanism ensures data is transmitted among heterogeneous devices with minimal vulnerability. Additionally, the common communication protocol provides the foundation of interoperability between devices. With unobtrusive devices, inhabitants are not burdened with operation, ensuring their accessibility and improving their user experience. Lastly, the data is exchanged in a standardized JSON data format, enabling efficient data-sharing board data integration.

Conclusions: This project developed a data ecosystem based on existing smart home environments. The ecosystem is compatible with smart devices that families already have, effectively reducing additional healthcare costs. Implications of this study include helping health policy and decision makers to adopt more smart home ecosystems to keep older people healthy at home.

Key messages:

- Study constructed a data ecosystem compatible with smart home sensors, achieving remote monitoring of indoor activities and improving the quality of life for seniors.
- The developed ecosystem offers promotion in privacy and security, interoperability, accessibility, and efficient data-sharing, reducing healthcare costs.

Abstract citation ID: ckae144.1637
Youth mental health care use during COVID-19: Evidence from administrative data in Alberta, Canada

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Background: The COVID-19 pandemic affected health care service delivery and accessibility. Our study examined how Canadian youth used mental health services before and during the COVID-19 pandemic, and whether youth access and use patterns differed for subgroups based on social determinants previously associated with health care access.

Methods: Cross-sectional population-based administrative health care data from the province of Alberta in Canada was used to examine youth (ages 15-24) mental health care use from 2018/19 to 2021/22. Data was analyzed using an interrupted time series design and segmented regression modeling on type of mental health care use. Outcome measures were mental health care use for: general physician visits, psychiatrist visits, emergency department, hospitalization, and different mental health diagnoses. We stratified by factors related to social determinants, including gender and socioeconomic status.

Results: The analysis indicates an overall increase in the proportion of youth that used mental health care from 2018/19 to 2021/22 (14.4% vs 17.5%, respectively). There was an immediate drop in use with the onset of the COVID-19 pandemic in Canada, followed by a steady rise during the pandemic years, which was largely due to an increase in general physician visits. This rise was seen for most mental health diagnoses of study (i.e., anxiety, adjustment, attention-deficit/hyperactivity disorder, schizophrenia, and self-harm disorders). Service use increased for young women/girls compared to young men/boys and for youth from wealthier neighborhoods.

Conclusions: This study provides evidence to support health services planning and delivery to respond to the mental health needs of youth and to prepare for future public health emergencies.

Key messages:

- Our study findings indicate changes in health care use for mental health among Canadian youth (ages 15-24) during the COVID-19 pandemic, with use patterns differing for youth subgroups.
- Administrative health data can provide evidence to support health services planning and delivery to respond to the mental health needs of youth and to prepare for future public health emergencies.

Abstract citation ID: ckae144.1638
Semmelweis University's innovative Center of Preventive Services in support of healthy ageing

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Issue/problem: Europe's aging population presents substantial hurdles for healthcare sustainability. To alleviate the social and economic impacts of age-related diseases, promoting healthy aging is imperative. However, motivating individuals to adopt a healthier lifestyle proves challenging.

Description of the problem: Semmelweis University, a leading institution in medicine, health sciences, and health care in Hungary and Central Eastern Europe, has addressed this challenge by establishing the Center of Preventive Services (CPS), serving 12,500 Semmelweis University employees. The CPS conducts comprehensive health risk assessments and offers consultations with specialists in preventive medicine, public health, dietetics, physiotherapy, and health psychology. Motivational interviewing is used to enhance patient engagement and commitment to healthy lifestyle changes.

Results: The CPS has effectively integrated preventive services into the university's healthcare system, reaching a significant number of employees. Early results show improvements in participants' lifestyle and health behaviors due to the effective use of motivational interviewing. According to the first preliminary result, a study on step count conducted within the CPS found that those taking part in motivational interviewing session were able to increase their average daily step count by 1074 (95% Confidence Interval: 116-2033) steps more than controls.

Lessons: The Semmelweis University's CPS provides valuable lessons for integrating healthy aging-focused preventive care into healthcare systems: 1. Effective preventive care requires targeted interventions based on detailed risk assessment and motivational interviewing; 2. Embedding preventive services within existing health infrastructure improves accessibility and utilization; 3. Collaborative and multidisciplinary approaches are essential to comprehensively address the needs of ageing populations.

Key messages:

- Motivational interviewing boosts the effectiveness and engagement of preventive health services, which is essential to meet the challenges of ageing populations.
- The Semmelweis University's model program shows that embedding preventive services into the infrastructure of existing institutions like universities is scalable for better public health.

Abstract citation ID: ckae144.1639
Assesing health needs of women with breast cancer in a Regula Hospital Dispensary in Crete, Greece

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Background: Understanding the health needs of women with breast cancer is essential for tailor-made care. Socio-economic factors impact care access and outcomes. Previous research has indicated variations in healthcare experiences based on factors such as education level, employment status, and income. However, specific insights into the health needs of women with breast cancer in Crete, Greece, remain limited.

Purpose: The current study aimed at assessing the health needs of women with breast cancer.

Methods: A total of 161 women were surveyed between June 2023 and December 2023 in a regular Hospital Dispensary at a General Hospital in Heraklion, Greece.

Results: The majority were married (46%) and had an average of 2 children. 16% were graduates of secondary education and 42 % graduates of higher education, 33% retired and 19% full-time employees. Most participants (45%) reported a family income between 10,001 to 20,000 €, 29% under 10000 € and 26 % between 20001 to 30000 €. The majority had received additional medical treatment (75%), with surgery being the most common (30.6%). Other treatment included radiation therapy (28%), chemotherapy (23%), and hormone therapy (18%). Prevalence of comorbidities was high, with hypertension (97%), coronary heart disease (92%), cholesterol issues (43.5%), arrhythmias (82%), thyroid disease (81%), diabetes mellitus (79.5%), and bleeding disorders (43.5%) being reported. Smoking was also prevalent among participants (79.5%).

Conclusions: This study highlights the complex health needs of women with breast cancer in Crete region, Greece and emphasizes the prevalence of comorbidities and the importance of tailored support services and comprehensive care approaches for this population.

Key messages:

- Considering socio-economic factors is critical in healthcare planning and intervention strategies.
- Emphasizing the importance of tailored support services and comprehensive care approaches for this population.

Abstract citation ID: ckae144.1640
A socially interactive communication skills training for competent health educators

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Background: Every contact with expectant and new parents can be a “teachable moment” for promoting the health of mother-baby-family; yet, healthcare providers may not effectively perform their educational role. Previous studies have described various setting-specific challenges. Procedural knowledge, resulting in lack of confidence and avoidance, is a universal theme, challenging current communications skills training. Given the evolving role of midwives under the new Cyprus National Healthcare System, there is need for innovative practices.

Objectives: “Baby Buddy Communicators” designed, implemented and piloted tested a socially interactive digital environment on the Edubreak platform, where practicing ($N = 8$) and in-training ($N = 7$) Midwives completed an 8-week iterative hybrid communication skills course along with service-users.

Results: Four situational-based scenarios were co-created with ‘holders of the experience’ tapping on key priorities (elective caesarean, breastfeeding challenges, baby in NICU, postnatal depression). Participants produced video artefacts of role-play consultations and engaged in peer-to-peer and service-user feedback via the in-built video annotations and blog writing tools. Deductive content analysis of the rich material using the 18-item Health Professionals Communications Skills (HPCS) scale identified recurrent patterns tapping on both informational aspects (e.g. incomplete information gathering, overload without assessing comprehension) as well as social skills (e.g. agenda setting, early reassurance, assertiveness).

Conclusions: This cross-sectoral transfer of social video from sports training to healthcare is a “proof of concept”. Inverted (i.e. making current practices visible) and experiential learning (e.g. feedforward) with cross-sectoral (service-user involvement) and cross-module dimensions (i.e. communication skills and evidence-based practice) provided the basis for evaluation and a source of shared learning and reflection.

Key messages:

- Several areas of improvement in communication skills of maternal healthcare providers were identified while peer-to-peer and service-user feedback was a source of reflection.
- The use of digital technology and social video allowed immersive role-playing, observation and constructive feedback loops providing a new paradigm in health communication skills training.

Abstract citation ID: ckae144.1641
Exploring methodologies and frameworks for best practice transfer at the primary care level

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Background: In Feb 2023, the EU’s Joint Action on the transfer of best praCtices In pRimary CarE (CIRCE-JA) was launched with the objective of effectively transferring and implementing six best practices (BPs) among Member States (MS). Transferability from one primary care (PC) setting to another can be challenging given organizational, legal, cultural, social, economic, and environmental factors, requiring robust a methodological framework to guide the transfer process. A scoping review was conducted to identify conceptual models and methodological frameworks for context-relevant and evidence-informed BP transfer in PC settings.

Methods: The study aimed to identify models or frameworks to guide BP transfer in PC settings, whilst maximizing transferability. The JBI methodology was used, and an extensive search was conducted in PubMed (time limit: Jan ‘13-May ‘23). All publications of original research, systematic reviews, and text and opinion papers in English were eligible for inclusion. Key exclusion criteria were set, i. e., intervention type, level of care and reporting quality. The search was supplemented by gray literature review.

Results: From a total of 369 publications, 9 met eligibility criteria, reporting on 10 conceptual and methodological models/framework largely varying. These included transfer models applicable to all BPs as well as elements specific to some BPs, i.e., addressing integration, patient-centered care, care coordination, and health promotion. Strengths and weaknesses were identified for all.

Conclusions: Transferability of health interventions is complex, requiring systematic consideration of setting and intervention characteristics to inform and support local adaptation, implementation, and decision-making. Key elements identified can support the CIRCE-JA BP transfer and are largely relevant for further BP transfer across PC settings in EU MS, incl. for local adaptation, stakeholder engagement and effective implementation monitoring.

Key messages:

- Innovative BPs are successfully deployed in many EU MS. To best support transformation for strong EU primary care and resilient health systems, it is important to ensure evidence-informed BP transfer.
- This review reports on the selection of appropriate frameworks and models, and key elements thereof, to allow successful transfer of CIRCE-JA BPs and other BP transfer across PC settings in Europe.

Abstract citation ID: ckae144.1642
Improving the healthcare response to migrants landing in Lampedusa through a multimodal strategy.

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Issue: Lampedusa island is a crucial Italian entry point for migrants and the only health facility is the outpatient clinic that relies on the helicopter transfer to the mainland for urgencies. When the influx of migrants -and of tourists- increases, the health demand burden rises. Moreover, the plurality of the actors involved in migrants' reception and assistance makes healthcare organization complex. In 2023, 115.000 arrivals were recorded with an increase of pregnant migrants transferred by helicopter; moreover, the lack of an EMTs-equipped ambulance and coordination gaps between actors were raised.

Description of the practice: Also paving on law 50/2023, in 2023 INMP and other institutions promoted a multimodal strategy to support healthcare in Lampedusa. A needs assessment grounded on settings and processes field observation and key stakeholders' structured interviews was designed. Hence, an equipped ambulance service was set in September 2023 and an obstetric triage (ObT) procedure for pregnant migrants was tested. Further, operational protocols for migrants' health have been drafted and enclosed in a MoU signed between key institutions, and a dedicated Committee monitoring protocol implementation was also set.

Results: Until now the ambulance has carried out 242 operations, mostly in response to community requests and ObT has led to using helicopter solely for real Ob urgencies. Also, the MoU has improved the coordination between actors, and the monitoring Committee-just settled-has already identified new priorities such as of defining a procedure for pregnant migrants requesting pregnancy termination.

Lessons: A multimodal strategy based on field assessment, enhancing coordination between actors and rolling-out of shared procedures has improved the effectiveness, efficiency and appropriateness of healthcare in Lampedusa, requiring a slight increase in resources. Remarkably, the healthcare reinforcing results in beneficial also for the general population.

Key messages:

- Massive influx of migrants in Lampedusa has required strengthening health services on the island.
- Evidence-based interventions based on needs assessment have improved healthcare for both migrants and the general population.

Abstract citation ID: ckae144.1643
Strategies for primary healthcare in Ukraine: An integrated response to gender-based violence

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Issue/problem: Survivors of gender-based violence (GBV) and conflict-related sexual violence (CRSV) in Ukraine face significant challenges in accessing appropriate healthcare services. Despite governmental commitment, acknowledgment and regulatory frameworks, including the ratification of the Istanbul Convention, gaps persist in integrating comprehensive GBV/CRSV services into primary healthcare (PHC) settings, exacerbated by the ongoing conflict with Russia.

Description of the problem: An analysis of healthcare providers' knowledge has revealed deficiencies in effectively supporting GBV/CRSV survivors. Barriers include workload pressures, lack of intersectoral cooperation and case-management protocols, and insufficient training opportunities on survivor support. In collaboration with the World Health Organization, the global Clinical Management of Rape (CMR) guidelines was adapted for Ukrainian context. Among findings from CMR trainings attended by 443 PHC providers in 2022-2023 (213 participants in 2022 and 230 participants in 2023), the results underscore gaps in PHC workers' basic knowledge and readiness to effectively support survivors during the war.

Results: Data from WHO training sessions underscored significant gaps in knowledge among healthcare professionals regarding legal protocols, available resources, and best practices in PHC service delivery. Identified barriers emphasized the urgent need for targeted interventions to enhance PHC workers' capacity in GBV/CRSV response.

Lessons: Recommendations focus on systemic enhancements including revising regulatory frameworks, developing standardized protocols, and institutionalizing and providing comprehensive training programs. Innovative approaches like online courses, mentoring programs, and integrated service models are crucial for addressing multifaceted challenges.

Key messages:

- A holistic GBV/CRSV response is an essential component in PHC.
- This intersectoral survivor-centered approach provides safe spaces that can be adapted to other contexts in Europe.

Abstract citation ID: ckae144.1644
Behavioral incentives on pay-for-performance schemes in primary health care: a scoping review

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Background: Incentivizing healthcare professionals through pay-for-performance (P4P) schemes has become an essential strategy to enhance healthcare quality and efficiency. In Portugal, a P4P framework was put in place in Primary Health Care (PHC). Understanding how these incentives influence healthcare delivery is crucial for optimizing P4P effectiveness.

Objectives: This scoping review aims to compare the impacts of intrinsic and extrinsic incentives of P4P schemes within PHC teams.

Methods: We are conducting a comprehensive scoping review following the PRISMA-ScR guidelines. The databases PubMed/MEDLINE, Scopus, Web of Science, and PsycINFO are being searched to identify experimental and quasi-experimental studies. Eligible studies focused on PHC providers organized in teams, examining the role of intrinsic and extrinsic incentives under both public and private healthcare settings.

Results: Preliminary findings include a Dutch study demonstrating significant improvements in adherence to prescribing guidelines through electronic health records based P4P indicator. In Ethiopia, performance-based non-financial incentives led to enhanced data quality and evidence utilization among health workers. Conversely, a study from Burkina Faso highlighted mixed results in antenatal care quality improvement despite incentive implementation. In Scotland, studies on the removal of financial incentives indicated potential declines in certain quality care metrics, suggesting the complexities involved in the direct and indirect effects of incentive withdrawal.

Conclusions: The preliminary evidence indicates that both intrinsic and extrinsic incentives can significantly impact the effectiveness of P4P schemes, though the nature and magnitude of these impacts vary considerably. The findings underscore the necessity of a nuanced approach to designing and implementing incentive mechanisms in PHC to foster sustainable improvements in healthcare quality.

Key messages:

- Intrinsic and extrinsic incentives significantly influence P4P scheme effectiveness in PHC.
- Designing P4P incentives requires nuanced consideration of varying impacts on healthcare quality.

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Reorganisation of the emergency network in the province of Verona

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Background: In recent years, in the provincial context of Verona, has been perceived an increasing pressure on the Emergency Room (ER). There was therefore a need to identify possible actions to optimize the emergency network. The aim of the study was to evaluate the impact of the first corrective measure implemented: the redistribution of the municipalities' afferences.

Methods: Data on the actual number of beds in each facility and on the emergency equipment were obtained from the various medical directions. Once the population/bed index had been calculated, it was adjusted according to the characteristics of the various facilities. Based on these data, the redistribution of afferences was carried out. The period monitored in the study covers the first three months after the reorganisation (January 2024) in comparison with the same period in 2023. The data collected were used to calculate both activity indicators for the PS and the Urgent Emergency Medical Service (UEMS).

Results: With a stable number of calls recorded in the two periods examined (20,366 in 2023 and 20,255 in 2024), with regard to the locations affected by the redistribution of municipalities, there is a decrease in the number of ambulance calls in San Bonifacio (-7.5%) and Villafranca (-16.2%) and an increase in Peschiera (+13.6%) and Negrar (+16.5%) compared to the quarter of the year 2023. There is no significant increase in Borgo Roma.

Conclusions: The organizational structure of the emergency services in the province of Verona is part of a highly complex framework. In any case, this first change has proved to be effective in addressing some of the factors influencing the contribution of the ER, but the overall impact and extent of the change will have to be studied in depth in order to optimize the network as much as possible.

Key messages:

- The reorganisation of such a complex area is a very difficult challenge, but the path we are taking seems to be the right one.
- It will also be necessary to act at the level of the internal processes of each ER in order to successfully complete the reorganization.

Abstract citation ID: ckae144.1646

A national job profile for infection control nurses in public health: the development and content

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Background: The COVID-19 pandemic emphasized the crucial role of infection control nurses (ICNs) in public health. ICNs working in multidisciplinary infection control teams face challenges, such as new infectious disease outbreaks and vaccination hesitancy. Recognizing the complexity in this domain, Dutch ICNs in municipal public health services expressed the need for a national job profile describing their tasks and responsibilities.

Methods: A mixed methods approach was used to develop a job profile. National and international documents on infection control professionals were studied by desk research. Insights from Dutch infection control professionals and experts were collected through a survey ($n = 171$), two interactive discussion meetings (18-22 participants) and meetings with an advisory group of stakeholders, including representatives of the Dutch nurses' association. Descriptive statistics and deductive content analysis were used to analyze the data.

Results: The diverse methods facilitated the development of a job profile for Dutch ICNs. The profile describes that, within infection control teams, ICNs play a key role in coordinating and monitoring infection control measures. They facilitate collaboration among (at-risk) individuals, the infection control team, and the collaborating partners. Additionally, ICNs identify emerging risks for infection control and coordinate infection prevention activities in collaboration with the infection control team. During large-scale outbreaks, ICNs take a leading role and, where appropriate, delegate tasks such as contact tracing to crisis workers.

Conclusions: We developed the first job profile that outlines the tasks and responsibilities of ICNs in Dutch public health services. It contributes to strengthening infectious control services to face future challenges. Findings emphasize the ICNs' pivotal role in coordinating and monitoring infection control efforts, while enhancing collaboration, even during large outbreaks.

Key messages:

- In close collaboration with infection control professionals a robust job profile was developed, describing the tasks and responsibilities of infection control nurses in the Netherlands.
- The new job profile contributes to strengthening the position of infection control nurses working in municipal public health services and infection control teams.

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Life course prevention - challenges for public health lying ahead

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Issue/problem: Demographic and epidemiological transitions have now shifted the focus from vulnerable population groups onto the active population, in particular young adults. At the same time lessons from the covid-19 pandemic taught us about missing actions on the elderly. While the latter have shown compliance and have followed most preventative activities, we observe scepticism and reluctance in the young adults.

Description of the problem: The covid-19 pandemic showed that young to middle-aged adults were the most reluctant group to adhere to preventative measures but in complying to the recommendations concerning vaccination. Since European activities are now focusing on addressing determinants of NCDs and are hoping to mobilise all population strata, including young and middle-aged adults, it would be important to explore how this mindset might affect the overall attitude to prevention.

Results: Health policy should explore specifically the needs of young to middle-aged adults (e.g. ages 30 to 44) to list their specific needs, expectations from preventative activities. On the other hand, it would be necessary to find out about the concerns, reluctance, and objections. The interplay of these will play a significant role in acceptance of present and future preventative activities. Exploration on these topics presents the following challenges: 1. Multiple sources of information on given health problems; 2. Lack of structured accessible and well-understandable explanations of advantages and benefits; 3. Inappropriate communication by health professionals or agencies on their behalf; 4. Complexity of the problem, which is then translated into complex and not easily understood messages.

Lessons: Learning about the specific needs of young adults, their expectations from the health systems in terms of prevention and health care as these will shape their overall attitude to prevention and have an impact on their families, particularly children.

Key messages:

- Knowledge about expectations, needs, concerns, and reserves with respect to prevention is essential for the future activities on prevention.
- Involving young and middle-aged adults in the preparation of the future preventative activities for their population groups is essential.

Abstract citation ID: ckae144.1649

Utilization patterns and preferences of telemedicine services in the post-Covid-19 era in Israel

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Background: While telemedicine can streamline healthcare delivery, suboptimal use may compromise care quality and access. Given the increased adoption of these services during and after the Covid-19 pandemic, understanding best practices through examination of utilization patterns and patient preferences is crucial. This study estimated utilization rates, patient preferences and perceptions of response received for different physician-encounter channels for common clinical and administrative scenarios.

Methods: Cross-sectional telephone survey in Hebrew or Arabic of 519 Israelis who contacted a doctor in the past year for clinical or administrative needs. Data collected during April-June 2023, focused on chosen contact channel, reasons for choice, perceived response adequacy, and hypothetical future preferences.

Findings: 78% of encounters with family physician for clinical need were in-person, with lower rates for phone (16%) or messaging (6%); in-person dominated with encounters with specialists (94%). Conversely, for administrative needs, more used phone (15%) or messaging (48%), though 37% still preferred in-person encounter. Video usage was negligible (<1%). Main reasons for in-person choice were perceived need for physical exam, habit, or negative perception of remote service quality. Convenience/exam-free needs drove phone/messaging use. While most patients were satisfied with their chosen channels, phone consultations had lower future preference rates.

Conclusions: Matching channel to need is crucial. Physical exams require in-person visits, though they are not always required and many stick with in-person out of habit; remote options like messaging can streamline administrative tasks. Patient education could address habits and help familiarize patients with new options. Optimizing phone visits and promoting video options could enhance adoption due to their benefits.

Key messages:

- In-person visits are preferred for clinical needs, while messaging/phone are underutilized for administrative tasks, highlighting missed opportunities for convenient telemedicine options.
- Addressing patient habits and perceptions around remote healthcare channels is crucial for optimizing telemedicine adoption and streamlining care delivery.

Abstract citation ID: ckae144.1650
Workplace health promotion measures and use of medical services in the German Federal Armed Forces

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Introduction: Workplace health promotion measures (WHPM) are among recommended options for maintaining employees health, important for the German Federal Armed Forces as an employer. In order to detect associations between WHPM and health care utilization, we recorded the number of outpatient visits and hospital stays, differentiated according to gender, military or civilian activity.

Methods: Prospective longitudinal observational substudy with cross sectional analysis of items regarding use of medical services at T0 (6-9/2022). Analysis for T1 (2023) and T2 (2024) follow. Data were obtained with a web-based employee survey to record self-reported endpoints. A total of about 224.000 employees by the German Armed Forces were addressed.

Results: Survey participation rate was 10.5% (n = 23.568) of all employees in T0, 29.1% were women and 0.3% reported being diverse, 43.2% of the participants were <40 years of age. Independently of taking part in WHPM, we did not detect differences in the proportion of male soldiers receiving treatment in hospitals of the German Federal Armed Forces. Among female soldiers without WHPM, 37.5% stayed in hospitals and with WHPM 30.5%. Higher % of women (84%) than men (78%) presented to the military - or family physician (w: 81%, m: 73%), independent of participation in WHPM and assignment for civil or military. In last 4 weeks, more women (81.3%) than men (65.6%) were prescribed medication. Female employees in civilian w.p.(84.8%) took more medications than those in military w.p (77.7%). Oral contraception was used by 20% of women in both civilian and military w.p.

Conclusions: There are no gender differences nor difference for civilian or military employees concerning the number of days staying in hospital. More women than men recieved regular outpatient medical care and more women than men take medication regularly.
*Ludwig S and Roy R share last authorship

Key messages:

- There are no gender differences nor difference for civilian or military employees concerning the number of days staying in hospital.
- More women than men recieved regular outpatient medical care and more women than men take medication regularly.

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The determinants of oral health in Turkish elderly: an analysis of Turkey Health Survey (THS) 2022

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Background: Oral health is an integral part of health and wellbeing; however, the use of dental care by the elderly is lower compared to other services. Considering the relationship between oral health and chronic diseases, along with healthcare use patterns, evaluating oral health in the elderly is crucial. This study aims to assess the oral health status and individual, socioeconomic and healthcare related factors in people aged 65 and over in Turkey.

Methods: This cross-sectional study was based on THS 2022 micro dataset. Participants aged 65 and over constituted the population of this study, with 3144 participants included. Data analysis was performed using SPSS 28.0 and included descriptive statistics, Pearson's chi-square and logistic regression.

Results: The mean age of participants was 72.57 with 54% being women.Self-reported poor oral health was noted in 25.8%, and 75.2% did not receive dental care in the past year. Individual factors such as older age, obesity, and multimorbidity, as well as social factors like female gender, being single, and language barrier, were associated with worse oral health. Education and social support were also associated with oral health. Among economic factors, employment showed a significant association. Concerning healthcare-related factors, not using oral care in the past year, unmet dental care needs due to financial constraints, appointments, and transportation were associated with worse oral health. Logistic regression revealed significant associations between oral health and age, multimorbidity, gender, language, education, social support, employment, dental care use, unmet dental care needs due to financial constraints and transportation.

Conclusions: Addressing barriers and risk factors is needed to improve oral health among Turkey's elderly. Efforts should focus on enhancing access to dental care and addressing socioeconomic determinants of oral health.

Key messages:

- Identifying and addressing barriers and individual, socioeconomic and health-care related risk factors associated with poor oral health among the elderly in Turkey is important.
- It is needed to prioritize efforts aimed at enhancing access to oral care for the elderly in Turkey by both improving physical access and addressing social determinants to ensure better oral health.

Abstract citation ID: ckae144.1652
Organization of Vaccination Sites in Quebec: Perception of Users, Employees and managers

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Since late 2020, vaccination sites have emerged rapidly in order to protect the population against COVID-19. Health services in Montérégie (Québec) are provided by three organizations. Each adopted a different approach to immunization. The Regional Public Health Department took this opportunity to describe, compare, and explain these three approaches. A mixed methods design through a multiple case study was conducted. Users, employees and managers were interviewed at the end of 2021 on several performance-related topics. Individual interviews with employees and managers in mid-2022 further explored these topics. 38 managers, 360 employees, and 946 users participated in the survey. 9 managers and 10 employees were interviewed. Most participants were satisfied with vaccination organization regardless of the model used, mainly because of high geographic and temporal accessibility of the sites. Further signage to indicate directions could optimize accessibility. High adaptability was essential for managers and employees. Training strategies such as people to refer to and pairing allowed to better deal with frequent changes and staff rotation. The addition of ongoing training could be beneficial. Rapid changes in employee schedules were identified as a challenge. The use of technology-based scheduling tools, accessible to all, brought added flexibility, which was appreciated. Several ideas were used to communicate updates on a daily basis. However, timely implementation of new recommendations remained an ongoing challenge. Dedicated clinics for specific clienteles were successful. Community partnerships were generally beneficial, although establishing more of them could potentially reach other vulnerable communities. To improve accessibility and minimize health social inequities, a greater investment in local partnerships might reach more vulnerable clienteles. Regular communication and innovative employee support are key elements to improve fluidity of operations.

Key messages:

- Reaching out for vulnerable clienteles is essential to minimize health social inequities.
- Rapid changes in services needs underlign fluidity communication importance.

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The trajectory of frailty index among spousal caregivers: longitudinal evidence from China

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Background: Very few studies have investigated the association between providing unpaid caregiving to a spouse and the frailty of caregivers. This study aims to examine the impact of providing spousal care on frailty among the middle aged and older Chinese population.

Methods: Data were derived from the 2011, 2013, 2015, and 2018 waves of China Health and Retirement Longitudinal Study (CHARLS) including 4,008 participants aged 50 and above. Frailty was assessed using a composite mean score based on 41 indicators according to Rockwood frailty criteria, including self-reported health, medically diagnosed conditions, medical symptoms, functional activities assessment, Activities of Daily Living (ADLs), and Instrumental Activities of Daily Living (IADLs). A growth curve model was employed to investigate the differences in frailty among caregivers and non-caregivers.

Results: Compared to non-caregivers, spousal caregivers were more likely to have a higher frailty when adjusted for all covariates (Beta=0.010, SE = 0.003, $p < 0.001$). Furthermore, female caregivers exhibited a higher rate of change of frailty index over time (Beta=0.002, SE = 0.001, $p < 0.05$) compared to female non-caregivers, while no such effect was found in males.

Conclusions: The findings of this study reveal that providing unpaid care to a spouse is associated with an increase in the frailty index over time particularly among female caregivers. These insights underline the necessity for Chinese policymakers to develop and implement targeted interventions aimed at reducing burden on spousal caregiving, thereby preventing an increase in frailty among these caregivers. Such measures would also align with the broader objective of promoting healthy ageing.

Key messages:

- Chinese policymakers need to develop and implement targeted interventions to reduce the burden on female spousal caregivers and prevent increased frailty.
- Focusing on the frailty of female spousal caregivers is crucial for promoting healthy aging.

Abstract citation ID: ckae144.1654
Long-term Survival After Cancer: A Scoping Review of the Health Care Landscape in Germany

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Background: Cancer remains a global health concern, with a significant increase in new cases projected in the coming years. Although cancer treatment and diagnosis have advanced, leading to improved survival, survivors often face complex physical, emotional, and cognitive challenges. The objective of this scoping review is to provide an overview of the current landscape of specialized long-term survivorship care services in North Rhine-Westphalia (NRW) with a focus on vulnerable groups.

Methods: The scoping review involves two search approaches: a manual search performed by two review authors and a systematic search performed by an information specialist following Scoping Review guidance. The protocol was published on the OSF platform. The systematic search was conducted in databases such as LIVIVIO, MEDLINE and Scopus. The manual search involves identifying key categories of survivorship services and conducting online searches based on these categories in duplicate. Data extraction and synthesis is conducted using EPPI-Reviewer software, and focuses on services characteristics, patient demographics, program format, and accessibility.

Results: The study has identified more than 300 survivorship care services across North Rhine-Westphalia. According to preliminary results some services offer comprehensive care, while others have significant gaps, particularly in addressing the needs of vulnerable groups. One example of these gaps is the lack of tailored services specifically designed for people with a migration background. Most of the services are not available in multiple languages or gender-specific oriented. The results will be presented on the congress in detail.

Conclusions: This scoping review underscores the importance of tailored survivorship care, especially for vulnerable groups. Public health actions should focus on addressing disparities in access to survivorship services, enhancing existing programs, and developing new policies to support cancer survivors.

Key messages:

- Effective survivorship care requires attention to vulnerable groups.
- The care of long-term cancer survivors should receive more attention in research.

Abstract citation ID: ckae144.1655
Preventive Resilience: The Role of Long-Term Care Organizations' Collective Agency Capacity

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Background: The COVID-19 pandemic has intensified pressure on healthcare organizations (HCOs), particularly long-term care organizations (LTCOs. An HCO's resilience is closely linked to its proactive ability to address and manage both novel and persistent stressors. This proactive approach, termed 'preventive resilience,' involves preemptively averting stressors to safeguard the organization's resilience mechanisms.

Objectives: The aim of this presentation is to examine the hypothesis asserting that preventive resilience is, to a significant extent, nurtured by the collective capacity of a Long-Term Care Organization (LTCO) to act and react as a cohesive social system. This collective agency capacity of an LTCO is posited to play a pivotal role in fortifying preventive resilience of HCOs.

Methods: We conducted a pooled cross-sectional study on long-term care organizations in Germany during the initial (April 2020) and subsequent waves of the pandemic (December 2020-January 2021). Our sample comprised 503 leaders during the first wave and 294 leaders during the second wave from various long-term care organizations. The study involved top managers of these facilities reporting their perceptions of the collective agency capacity of the LTCO, assessed using the AGIL short scale. Additionally, they were asked to gauge the facility's exposure to both general non-pandemic demands and pandemic-specific demands.

Results: We discovered a notable inverse relationship between leaders' perceptions of the collective agency capacity within their Long-Term Care Organizations (LTCO) and their assessments of general demands. However, no significant association was observed between the agency capacity and the magnitude of pandemic-specific demands.

Conclusions: The findings tentatively endorse the notion that cultivating the collective agency capacity of nursing facilities enhances their resilience to familiar general demands, particularly during periods of exceptional stress.

Key messages:

- Cultivating the collective agency capacity of nursing facilities enhances their resilience to familiar general demands.
- The collective capacity to act and react in a cohesive way is a general resistance resource of healthcare organizations.

Abstract citation ID: ckae144.1656
Rethinking electronic health records implementation in Germany: a value-based health system approach

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Problem: The Digital Act (Digital-Gesetz) in Germany stipulates that electronic health records (elektronische Patientenakte; ePA) will be set up for all persons under the statutory health insurance (SHI) in 2025; those who do not wish to use ePA can object. This opt-out approach aims to increase the coverage of ePA among the SHI population to 80%, which has been ca. 1.5% since its launch in 2021. According to law, ePA is managed solely by the patient and does not replace the conventional patient file stored in the medical practice management system. Without appropriate measures, it is likely that multiple parallel patient files are created, with the risk of ePA being side-lined over time.

Description: The Ministry of Health aims to make ePA the central platform for patients' healthcare provision throughout their life. With ePA, patients should receive useful information about their healthcare as well as reminders and tailor-made medical advice. For healthcare providers, ePA should become an essential part of the healthcare process with containing reliable information and supporting the treatment. However, understanding ePA as more than a digital health solution, factors beyond technical interoperability must be considered for its successful implementation.

Results: The full potential of ePA and its positive impact on healthcare to tackle the fragmentation issue can only be realised when it is viewed as a helpful tool of collaboration for all involved parties. The existing regulatory frameworks in Germany create disincentives for greater integration, coordination, and interconnection, with each sector following its own reimbursement system and reinforcing the division between them. This contradicts with the idea of ePA fostering patient-centredness and inter-sectoral collaboration.

Lessons: How a health system functions and how health services are governed and remunerated have a substantial impact on the healthcare providers' acceptance of digital services.

Key messages:

- Changes in the governance of health systems may be necessary when implementing electronic health records to bring person-centred care and overcome the separation of in-patient and out-patient sectors.
- Rather than a paternalistic approach, the relationship between the patient and healthcare provider should move towards a partnership model, based on the motivation of keeping individuals healthy.

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Assaults against pandemic heroes: an observational study in the Metropolitan City of Genoa in Italy

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Background: Escalating violence against healthcare workers is a significant public health issue that undermines care quality and workers' health. This descriptive study aims to examine trends in aggression across different pandemic phases.

Methods: The study analysed reported violence among healthcare workers from 2018 to 2023 within a Local Health Authority in Genoa, Italy. Variables of interest included the severity of aggression, the professionals affected, and the locations of incidents. Data was analysed using appropriate statistical methods, including multinomial logistic regression, to assess relationships across pandemic phases.

Results: Reported aggressions rose from 48 incidents in 2018 to 103 in 2023, totaling 463. Pre-pandemic physical violence was at 39%, dropping to 27% during and after the pandemic (χ^2=7.4, df = 2,

$p < 0.025$). Nurses experienced the highest violence rates, with an average of 72% pre-pandemic and 74% post-pandemic, reducing to 51% during the pandemic if compared with doctors (Coef -0.80; 95%CI -1.45|-0.15). Over half of incidents occurred in Emergency and Psychiatric Services, from 77% before to 51% after pandemic. Conversely, violence in Local Services rose from 7% before to 24% during and 28% after pandemic (χ^2=56.9, df = 6, $p < 0.000$). If compared to Hospitals, violence in Local Services increased during (Coef 1.44; 95%CI 0.40|2.48) and post-pandemic (Coef 1.001; 95%CI 0.13|1.87), and in Psychiatric Services decreased post-pandemic (Coef -0.98; 95%CI -1.67|-0.29).

Conclusions: Violence against healthcare workers shifted during and post-pandemic, mirroring the decentralisation of healthcare due to pandemic. The urgent development and implementation of effective violence prevention strategies are imperative. These should include training, psychological support, security enhancements, and a strong organisational culture that prioritises safety and respect. Protecting healthcare workers is crucial for their well-being and to ensure high healthcare quality.

Key messages:

- Escalating violence undermines care quality and healthcare worker well-being. Effective prevention strategies are essential, including training, support, and an organisation that prioritises safety.
- Nurses are the main victims of violence. Violence is higher in Emergency Departments, but incidents are increasing in Local Health Services, due to organisational changes during and post-pandemic.

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The impact of diabetes pay-for-performance program on hyperglycemic hyperosmolar state (HHS)

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Background: To examine the effects of a diabetes pay-for-performance (P4P) program on the negative metabolic outcome: hyperglycemic hyperosmolar state (HHS) of patients in Taiwan.

Methods: Four years (2008~2011) of data from the National Health Insurance Administration (NHIA) databases were examined. P4P patients included those who were newly enrolled in the P4P group in 2010, and consecutively included in 2011. Patients were never enrolled are defined as non-P4P group in these two years. The caliper matching method and a generalized estimating equation were used to estimate difference-in-differences models (baseline year 2009) and examine the effects of the P4P program on the count of the adverse outcome.

Results: The P4P program was associated with decreases in the incident of HHS (IRR 0.53, $P = 0.02$).

Conclusions: The disease management component of the diabetes P4P program can be beneficial for reducing the incidences of HHS.

Key messages:

- The disease management component of the diabetes P4P program can be beneficial for reducing the incidences of HHS.
- The disease management component of the diabetes P4P program is important.

Abstract citation ID: ckae144.1659

Increased feelings of nervousness among older Europeans post-pandemic

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Background: Feelings of nervousness are typically associated with situational factors and are temporary, less intense, and manageable with self-care. Study

Aim: This study examines which situational conditions are significant for feeling nervous among European older adults during the second wave of COVID-19.

Methods: Using data from Wave 9, COVID-19 Survey 2 (Summer, 2021) of the cross-national panel dataset the Survey of Health, Aging, and Retirement in Europe (SHARE), this study utilizes a sample of 49,253 adults over 50 years old from 27 countries in Europe. Analysis: Binary logistic regression indicates all variables are significant predictors of feeling nervous: Gender [Wald= 498.7, $p = 0.001$ (<0.05)]; chronic disease [Wald= 1635.002 $p = 0.001$ (<0.05)], employment [Wald= 164.544, $p = 0.001$ (<0.05)]; home care [Wald= 138.4, $p = 0.001$ (<0.05)], technology [Wald= 20.66, $p = 0.001$ (<0.05)]; social support [Wald= 106.66, $p = 0.001$ (<0.05)], and financial support [Wald=35.5, $p = 0.001$ (<0.05)] [Chi-Square=3216.401, df = 6 and $p = 0.001$ ($p < 0.05$)].

Findings: The odds ratio (OR) for gender is .627 (95% CI .601-.653), for chronic disease, is 2.659 (95% CI: 1.716 - 4.119) and employment is .675 (95% CI: .635-.717) and homecare is (OR)3.47(95% CI: 2.83-4.28); OR for social support is 855(95% CI:.830-.881), financial support 1.779 (95% CI: 1.47-2.15), and technology (OR).956 (95% CI: 938-.975). The model correctly predicted 94% of cases without feeling nervous and 16% of cases where people did feel nervous, giving an overall percentage correct prediction rate of 68%. Implications for Policy and Practice: Knowledge from this study can inform the introduction of public health interventions for older adults targeted toward specific situational circumstances that reduce nervousness.

Key messages:

- While feelings of nervousness can be situational, the impact on mental health can go beyond the contextual environment.
- Public health policies can support targeted interventions aimed at developing the coping skills necessary to better respond in times of crisis.

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Core set of indicators to evaluate healthcare workers support programmes: a consensus-based approach

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Objectives: Considering the widespread implementation of support programmes for healthcare workers (HCWs), there is an urgent need to establish a standardised set of indicators for their ongoing assessment. This study seeks to develop a consensus framework for evaluating interventions aimed at supporting HCWs affected by patient safety incidents (PSIs) or other distressing situations, commonly referred to as second victims (SVs). Having a core set of indicators it is crucial for facilitating comparative analyses across different organisations and time periods.

Methods: A qualitative study was conducted from June 2023 to March 2024. The study involved a multidisciplinary group of members part of the European Researchers Network Working on Second Victims. The consensus-building process utilised insights from a scoping review (phase 0) and a nominal group technique (phase 1) to develop a questionnaire for Delphi Rounds (phase 2). Indicators were rated on a scale of 1-5, with consensus reached if over 70% of participants rated an indicator as both feasible and sensitive scoring above 4. A consensus conference was subsequently organised.

Results: From an initial pool of 91 indicators, 55 were rated online, with 35 progressing to the Delphi rounds. A total of two Delphi rounds were performed and achieved response rates exceeding 60% and 80% respectively, resulting in consensus on 11 indicators for evaluating SV' support programmes. These indicators encompass various aspects such as awareness and activation of the programmes, organisational processes and structures, institutional training provisions and assessment of the impact of the programme in the SVs.

Conclusions: This study endeavors to provide guidance for future SVs' programs namely in the critical areas of programme's awareness and activation, structural and process enhancements, and programme's impact on SVs. Moreover, these indicators are suitable for multiple healthcare contexts and levels of implementation.

Key messages:

- The priorities for evaluation of second victim programmes' include their impact on healthcare workers, awareness and activation, organisational processes and structures and institutional training.
- Utilizing a multidisciplinary consensus approach, we defined a set of indicators that are adaptable to diverse contexts that provide care and varying levels of second victim support implementation.

Abstract citation ID: ckae144.1661

The evaluation of an eHealth tool to prevent and alleviate migraine complaints in adults

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Background: Migraines attacks cause great suffering in individual patients. There is great unfulfilled potential to increase patients' knowledge about various personal triggers and subsequent treatments. The objective of this study is to pilot test an e-Health tool that aims to increase migraine patients' knowledge. It takes into account personal preferences and contributes to informed decision-making in choosing the appropriate method. Considering the shortage of primary care physicians and other health care providers, such an e-Health tool could be of great value.

Methods: lessmigraine.nl consists of a website with information plus an electronic decision aid. It was evaluated on its content, development process and effectiveness, and its contribution to the patients' empowerment process. A first round of usability testing was done using semi-structured interviews and thematic analysis with 12 patients from a Dutch General Practice until data saturation. After minor improvements to the e-tool, in a first implementation step subsequently 85 patients used the e-tool.

Results: Patients' expectations were exceeded in terms of the content of the e-Health tool, as all patients discovered new potential migraine triggers. Most patients found the tool effective in the sense that it provided enough information to decide on an appropriate treatment. The implementation was successful in the sense that all 85 participants completed the e-tool. Most important triggers were stress, sleeping problems, changes in weather and flickering or bright light.

Conclusions: The majority of the migraine patients were satisfied with the e-Health tool. It enlarged their knowledge of prevention and treatment options and therefore empowered them in their decision-making process and communication with their GP. Other aspects of implementation need to be studied. This study needs to be repeated in other clinical settings.

Key messages:

- Migraines cause great suffering in individual patients: Considering the shortage of primary care physicians and other health care providers, an e-Health tool could be of great value.
- The e-Health tool increases patients' knowledge about migraine, including personal triggers and subsequent treatments.

Abstract citation ID: ckae144.1662

Racism in inpatient settings in Germany: professionals' perspectives

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Background: Experiences of racial discrimination during healthcare encounters have increasingly been recognised as a source of health inequity. Narrative accounts by racialised healthcare users have dominated research in the field but it is equally important to capture the perceptions and practices of professionals to understand how racism operates in healthcare provisioning. This presentation asks: how does racism manifest in the German inpatient healthcare system (hospitals, rehabilitation facilities), and are there areas or phases of healthcare provisioning where racism is observed more frequently?

Methods: Problem-centred expert interviews (Döringer 2021) with 20 healthcare professionals from medicine, nursing, and therapeutic professions working in hospitals or rehabilitation facilities across three German federal states. Data were analysed using documentary method (Bohnsack 2002).

Results: Racism occurs widely in German inpatient settings. It manifests both structurally, e.g. in the absence of professional translators for healthcare users with limited German skills, and interpersonally, e.g. in the form of microaggressions and stereotyping but also the witholding of treatment and verbal abuse. Targets of racism are both patients and staff, especially internationally recruited healthcare workers. Respondents thereby identify night shifts, psychiatric settings and the emergency ward as contexts where racism is more likely to occur. The hierarchical nature of and pervasive power asymmetries in hospitals thereby prevent effective interventions against racial discrimination.

Conclusions: Racism in German healthcare institutions requires multiscalar public health interventions, particularly at the level of the institutions themselves. These include the establishment of a robust and low-threshold complaints structure, spaces for self-reflection for professionals, and mandatory anti-racism training rather than a focus on diversity-sensitive competence.

Key messages:

- In future research approaches, structurally determined reproductions of racism should be investigated using a multi-method approach.
- Experiences of powerlessness are reported by both those affected by racism and those professionals who observe racism and should be addressed by the institutions.

Abstract citation ID: ckae144.1663
Factors that influence the need for mental health services for older adults in Europe

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Background: Mental health is an integral component of health, and affects close to a 100 million Europeans. Little is known about the predictors of older adult's mental health demand among health systems in European countries. This study is based on the Andersen's Behavior Model, that predicts that predisposing characteristics, enabling factors, and behavioral factors, influence need or demand factors of healthcare services.

Aim: This study has two overall objectives: (i) to investigate the determinants of older adults' mental health services demand; and (ii) examine the relationship between predisposing characteristics, and enabling resources, with services demand.

Methods: Data from Wave 9, of the of the cross-national panel dataset of the Survey of Health, Ageing and Retirement in Europe (SHARE) were examined using a sample of 47, 345 older adults.

Analysis: The Omnibus test was used to evaluate the fit model and Multinomial Logistics Regression were performed to test the null hypothesis that predisposing characteristics, enabling resources, and behavioral factors are not predictors of need or demand.

Findings: Predisposing characteristics such as gender (b=-.43, s.e.=.017, p<.001) and age (b=-1.96, s.e.=2.2, p<.001), and enabling factors such as homecare (b = 2.40, s.e.=0.1, p<.001), social support (b=-.26, s.e.=0.012, p<.001), financial support receiving (b=.51, s.e.=.086, p<.001), income (b=.09, s.e.=.009, p<.001), and behavioral factors such as use of technology are predictors of mental health services need or demand [Chi-Square= 3319.58, df = 15 and p <.001].

Implications for Policy and Practice: Initiatives for the care of older adults should not only aim to increase access to care services for sub populations such as older adults with mental health but also consider enabling resources such as financial and social support and behavioral factors such as use of technology.

Key messages:

- Demand for mental health services for older adults are influenced by predisposing, enabling and behavioral factors.
- Investing in financial services, social support and technology may reduce the demand for mental health services among older adults.

Abstract citation ID: ckae144.1664
Social Infrastructure and Organizational Resilience - A Theoretical Model

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Background: Considering resilience as a necessity for health care organisations (HCOs), many researchers argue that fluidity is a must and that organisational structures (formal and informal) hinder the adaptability and resilience of health care organisations. Contrary to this statement, my thesis posits that fundamental adaptive processes leading to new equilibria depend on a stable core that persists amidst change, enabling and catalysing these transformations.

Methods: The phenomenon of resilience within healthcare organisations is examined through the lens of sociological systems theory. Rooted in Talcott Parsons' assertion that social systems, including healthcare organisations, must perform four basic functions (Adaptation, Goal Achievement, Integration, Latency: AGIL) to survive and function, our research uses the deductive method to derive the necessary structural social components required to cope with external demands.

Results: The application of the methods yields four complex basic structures rooted in the social structure of healthcare organisations: adaptive structures (flexible structures & resource generating structures), goal achievement structures (governance enabling collective goal setting, decision making and persistence), integrative structures (social capital and social networks) and sustainability structures (socialisation structure, knowledge base, organisational culture).

Conclusions: As the core of stability, this 'four-component social infrastructure' is essential for facilitating higher-order forms of resilience, such as new equilibria. In its absence, healthcare organisations would flounder during change, posing risks to the resilience of these HCOs. Thus, structure is indeed inherent in the chaos of resilience activities. In other words, there is order in the chaos of resilience, and it is essential.

Key messages:

- Fundamental adaptive processes leading to new equilibria depend on a stable core that persists amidst change, enabling and catalysing these transformations.
- There is order and structure in the chaos of resilience.

Abstract citation ID: ckae144.1665
Living alone and care levels' distribution in first-time recipients of long-term care in Germany

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Background: As demographic shifts occur, along with longer life expectancies and advancements in medical care, there is a noticeable rise in the population requiring long-term care. In Germany, the Medical Service oversees the assessment for long-term care needs, which specifically evaluates the extent of limitations in maintaining independent living. These limitations are categorized into care levels ranging from 1 (indicating minor limitations) to 5 (denoting the most severe limitations).

Methods: Data from the long-term care assessment conducted nationwide in Germany are utilized for the analysis presented. The study focuses on individuals aged 60 and above with a first-time recognition of need of long-term care. Descriptive analysis is conducted on the distribution of care levels and living arrangements.

Results: The analysis encompassed 339,486 individuals, with an average age of 79.6 years (standard deviation: 8.4), of whom 59.0% were female. Approximately half of the sample were categorized under care level 2, while 32.4% fell into care level 1. Higher care levels (3-5) were less frequent (16.2%, 4.8%, 1.7% respectively). Individuals living alone were predominantly found in the lower care levels, whereas those not living alone were more commonly represented in care levels 3-5. Additionally, older individuals were more frequently assigned higher care levels.

Conclusions: Over 75% of initial applicants are classified within the lowest care levels (1 and 2) with a higher proportion of those living alone. One possible explanation is that within partnerships, the presence of a partner may serve as a form of support during the early phases of long-term care, with external assistance becoming necessary only as care needs escalate to higher levels. Further research should focus on examining the role of living alone in the need for long-term care.

Key messages:

- Initial applicants of long-term care in Germany living alone are more often classified in lower care levels (indicating minor limitations) than in higher care levels (indicating severe limitation).
- Partnerships may delay higher long-term care needs; research should explore living alone's impact on long-term care.

Abstract citation ID: ckae144.1666
Pertussis on the territory of Serbia in 2024 - challenges and opportunities for the future

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Introduction: Surveillance of pertussis in Serbia is passive surveillance and every 3 to 4 years an increased number of positive cases are registered in the population. The last quarter of 2023 and the first quarter of 2024 are characterized by an increased number of pertussis cases.

Methods: Descriptive study of cases with confirmed pertussis in the territory of the Republic of Serbia based on the evidence by the Public Health Service System of the Institute of Public Health of Serbia

Results: According to data from the Public Health Service System in the Republic of Serbia, a total of 1348 confirmed cases of pertussis were registered by the end of April 2024 (incidence rate 20.2 per 100,000 inhabitants).

Conclusions: The largest number of cases was registered in the age groups of people older than 20 years, that is, aged 10 to 14 years, while the highest age-specific incidence rate was recorded in the age group of infants younger than 12 months and in children aged 10 to 14 years. Of the total number of reported cases, 120 (8.9%) were hospitalized, with the largest number of those hospitalized being in the age group younger than 12 months (85, ie 70.8% of hospitalized cases). As for the territorial distribution, the largest number of pertussis cases in relation to the place of residence was reported from the territory of two districts, Južnobački District and the City of Belgrade, where the highest incidence rates were also registered. The postponement of timely vaccination against pertussis and the impossibility of vaccinating newborns up to 2 months of age have influenced the increase in the number of infected persons. Also, advanced PCR diagnostics during Covid and the possibility of applying PCR diagnostics in pertussis helped the timely diagnosis of pertussis. The introduction of vaccination with another dose of acellular pertussis vaccine and vaccination of pregnant women would be a desirable public health intervention to prevent pertussis infection.

Key messages:

- Protection of the target population before starting school and at the age of 14 will contribute to stopping the occurrence of new cases of pertussis. These are public health challenges.
- PCR diagnosis of pertussis influenced the timely diagnosis of this infection and the possibility of its adequate and timely treatment.

Abstract citation ID: ckae144.1667
Optimizing vaccination to reduce waste and boost coverage in Primary Health Care Units

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Background: In immunization, vaccine consumption typically exceeds the number of recipients. The number of doses per vial influences wastage and vaccination coverage goals. In Brazil, 48% of the National Immunization Program's vaccines are multidose, with 4 having limited shelf-life post-opening. Strategies to reduce wastage aim to optimize dose utilization, enhance process quality, and broaden coverage effectiveness. The objective was to outline strategies for reducing wastage and expanding coverage for children under 5 in 14 São Paulo city Primary Health Care Units (PHCUs).

Methods: The Lean Six Sigma approach guided the stages. A group conducted contextual analysis to identify PHCU barriers. Data on wasted doses and vaccination were gathered. Weekly meetings for data analysis began in May 2023, following DMAIC phases: Define, Measure, Analyze, Improve, Control. An action plan stemmed from these phases for PHCU implementation.

Results: Data analysis, from January 2022 to June 2023, revealed a significant vaccine wastage trend, reaching 59% from January to December 2022 and increasing to 63% from January to June 2023. This wastage incurs an average annual cost of R$614,416.26, due to lost doses from expiration after vial opening and expiration of shelf life. The vaccines analyzed were BCG, Oral Polio Vaccine (OPV), Measles, Mumps, and Rubella (MMR), and Yellow Fever. At the project start in May 2023, vaccination coverage was 90%, increasing to 93% afterward. This rise resulted from actions taken and improved data monitoring. Post-project, vaccine wastage reduced by 7 percentage points (from 62% to 56%).

Conclusions: Addressing vaccine wastage and expanding vaccination coverage for children under 5 are critical in healthcare. Utilizing Lean Six Sigma, key issues in PHCUs were identified, leading to an action plan that reduced wastage, increased coverage, and standardized processes.

Key messages:

- Vaccines are valuable resources and wasting them means reducing financial resources in health.
- Vaccination coverage is crucial to protect the population's health, prevent disease outbreaks, and maintain the country's economic health, reducing costs for treating preventable diseases.

DM. Poster display: Health literacy

Abstract citation ID: ckae144.1668
Generating qualitative evidence of the validity of the Health Literacy Questionnaire Parent

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Background: Health literacy refers to the skills needed to access, understand, and navigate health information and services. The Health Literacy Questionnaire (HLQ) is a widely used validated measure of health literacy capturing nine distinct domains. The HLQ-Parent is a recent adaption of the HLQ which has been designed to capture the nuanced health literacy skills required by primary care givers of children. Generating qualitative evidence of validity of such tools is an important element of the validation process as it captures understanding and interpretation of items which is not achievable by quantitative methods alone. Therefore, the purpose of this study was to generate qualitative evidence of the validity of the HLQ-Parent.

Methods: A qualitative study implementing the HLQ-Parent during face-to-face cognitive interviews with concurrent probing was conducted. Primary carers of children aged 16 or under living in England were recruited via voluntary organisations supporting families. Qualitative data analysis was conducted on the audio recordings in the form of text summaries. Parents' chosen HLQ-Parent responses were compared to their narrative responses and coded by the researcher as match, no match or unclear. Parents' narrative responses were also compared to the HLQ-Parent item intent descriptions and coded as concordant, discordant, or unclear.

Results: Overall, participants (n = 9, mean age 40 years, 88.9% female) narrative responses matched to their chosen HLQ-Parent response, while their narrative responses were concordant with the HLQ-Parent item intent descriptions. Two participants narratives did not match their responses for the item:' I have enough information to help me deal with my child's health'.

Conclusions: The qualitative data provided evidence that participants understood and answered the HLQ-Parent items as intended. Study results contribute validity evidence for the use of HLQ-Parent to measure parental health literacy.

Key messages:

- This study contributes evidence to the validity of the HLQ-Parent.
- Qualitative methods provide valuable insights that enhance the overall understanding of health literacy measurement tools.

Abstract citation ID: ckae144.1669
How can we support the development of health literacy in young people?

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Over the past two decades, there has been an increased interest in Health literacy (HL) to improve health behaviours and health outcomes. Due to its potential impact, HL is considered one of the major issues in public health and is increasingly being recognised in recent policies and initiatives. Although, the research justifying the importance of HL continues to grow, there is a lack of research focusing on strategies to improve HL and challenges that are faced when supporting HL, particularly in young people. Thus, this study aimed to explore, from the point of view of international academics and community-based practitioners, (i) key considerations when supporting young people's HL; (ii) major challenges to supporting young people's HL; and (iii) possible solutions to overcome such challenges. A stakeholder mapping exercise was used to recruit academic and community-based practitioners to take part of in a one-to-one interview (n = 29). Reflexive thematic analysis was used to analyse the data. The preliminary findings suggest that: the participants feel the use of participatory approaches is essential when designing a HL-focused program; the importance of embedding HL education and awareness into schools; the value in using interactive style learning; and the importance of targeting those 'hardly reached' populations. The participants highlighted that accessibility to schools; difficulty in engaging young people; and ensuring programs are sustainable as major challenges. Solutions to overcome which challenges were posited, including professional development for teachers; the development of engaging and context specific programs that target the young person's physical and social environment; and importance of influencing national policies to value HL. These findings can be used to inform interventions and policies to target the HL of young people.

Key messages:

- The importance of adopting participatory approaches when developing health literacy interventions.
- The importance of developing feasible, context specific and engaging health literacy curricula within schools.

Abstract citation ID: ckae144.1670
A lifestyle program for socially vulnerable community-dwelling elderly

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Problem: Socially vulnerable older adults often face lower health literacy and limited access to health care.

Description of the problem: Current lifestyle programs are often insufficiently adapted to this socially vulnerable target group. As a result, these older adults are underrepresented in lifestyle programs. From a public health perspective, lifestyle programs that improve the poorer physical and mental health of these older adults, should be made more accessible by involving the expertise, participation and needs of this group. The aim of this study was to develop and implement a lifestyle program adapted to the expectations and needs of socially vulnerable older adults.

Results: Both the target group and the local community (health) centers were involved during the co-creative phase of development. A neighborhood analysis was used to identify and reach out to the target group. Motivators and barriers for a healthy lifestyle were identified through focus groups. The developed program consisted of 10 weekly group sessions. Various health aspects were integrated, including exercise, nutrition, stress, sleep, positive psychology, meaningful living, and motivation. Nine centers for community dwelling older adults in Flanders and Brussels were included. In total, 93 older adults were recruited out of which 76 completed the full program. In the final phase, the program was evaluated by means of objective and subjective measuring methods. Finally, the local community (health) centers are currently involved in the program's sustainability through a trainers' program.

Lessons: The belongingness, the catering, the empowering attitude of the trainer and the 'fun' factor turned out to be success factors for the adherence to the program. The participating centres experienced an increase in numbers of older adults that were attracted to their activities that are focused on healthy lifestyle behaviors. The continuity of the program is currently being examined.

Key messages:

- A neighbourhood analysis in collaboration with local partners helped to reach the target group.
- The program was made attractive by the involvement of the older adults, the fun-factor and the small groups.

Abstract citation ID: ckae144.1671
Factors associated with over-the-counter drug misuse among young people: a narrative review

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Background: Over-the-counter (OTC) medications are sold directly to customers without requiring a doctor's prescription. Misuse of OTC drugs is higher in adolescents and young adults than in the general population. This review is the first to narratively synthesize the factors associated with OTC drug misuse among adolescents and young adults (14-25 years old).

Aim: To identify the factors that are associated with OTC drug misuse among adolescents and young adults (14-25 years).

Methods: A comprehensive search of three electronic databases, including MEDLINE, PsycINFO and Web of Science, was conducted to retrieve publications between 1 January 1997 and 31 July 2023. The AXIS tool was used to aid critical appraisal. Papers were analysed using thematic analysis.

Results: Eight studies were eligible for inclusion in this narrative review We identified four key themes: motivational factors; health literacy; illicit drug use and socioeconomic status. Sensation-seeking and using OTC drugs for recreational purposes were associated with OTC misuse. Limited health literacy and lack of understanding of OTC drugs were significant factors for misusing OTC drugs. Greater use of OTC drugs at the same time as alcohol and other illicit drugs represented that they were at increased risk for misusing OTC drugs. Finally, adolescents and young adults with low income, from rural areas and with lower educational attainment were most likely to misuse OTC drugs.

Conclusions: Although over-the-counter medications (OTCs) encourage self-medication, their rising misuse has led to a public health problem to which nations worldwide are responding. Therefore, education and awareness among OTC drug users policy will be helpful further on strategies to prevent the misuse of OTC drugs.

Key messages:

- This review identifies some of the factors for misusing OTC drugs, and education and awareness among OTC drug users policy may be helpful further in strategies to prevent the misuse of OTC drugs.
- This review also identifies that changing the user habits and availability of OTC drugs policy may also be helpful in further strategies to prevent the misuse of OTC drugs.

Abstract citation ID: ckae144.1672
Professional health literacy of health professions in Austria - results of the HLS-PROF-AT study

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Background: Health professions play a crucial role in strengthening the health literacy (HL) of the population - provided that they themselves have the necessary professional HL. This encompasses competencies related to information and knowledge management, conveying information and knowledge, patient involvement and shared decision-making, and professional digital HL. In 2022 and 2023, data on professional HL were collected in Austria.

Methods: Nearly 4,400 healthcare professionals (doctors, nurses, physiotherapists, pharmacists, midwives, dieticians) were asked about their challenges across the four domains of professional HL. A score was calculated for each domain, with five additional subscores for the domain conveying information and knowledge. The relationship between socio-demographic, job-related and organisational characteristics and professional HL were investigated using T-tests, variance analyses and multivariate regression models.

Results: The greatest challenge for all healthcare professions is supporting patients in dealing with digital information, followed by conveying information and knowledge. Apart from pharmacists, the least difficulties were found in the domain patient involvement and shared decision-making. Furthermore, the results demonstrate that a high level of professional HL is associated with more favourable organisational conditions for HL-promoting patient communication and (very) good preparation in training for the tasks of professional HL. There is no systematic correlation between professional HL and years of professional experience.

Conclusions: Overall, healthcare professionals rated their professional HL positively. However, the results also highlight areas for improvement. Alongside promoting professional HL in the context of (further) training, it is important to enhance organisational framework conditions for promoting patients' HL - ideally supported by initiatives to promote the organisational HL in healthcare organisations.

Key messages:

- The greatest challenge for the health professions surveyed is to support patients in dealing with digital information and to convey information and knowledge to their patients.
- Good preparation in training for the tasks of professional HL and favourable organisational conditions for HL-promoting patient communication are associated with a higher professional HL.

Abstract citation ID: ckae144.1673
Development of the health literacy responsiveness (HLR) evaluation framework for HLR interventions

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Background: Health literacy responsiveness (HLR) interventions include actions at different levels of an organization to provoke change and improve environments ensuring equitable access to and use of information and services (1). However, generic instruments measuring the effect of HLR at intervention level are inconsistent, making evidence on HLR intervention effects difficult to compare (2). The objective of this study was to develop an evaluation framework based on core outcome domains of HLR to facilitate higher consistency in future evaluations of HLR interventions.

Methods: HLR outcomes were identified through a narrative literature review and categorized into domains through a content mapping process. Expert consensus on core outcome domains was reached through a Delphi process. Experts within the field of HLR were invited to participate and answer three questionnaires designed to rank and clarify potential core outcome domains. Quantitative and qualitative analysis was performed to select and complete the final core outcome domains in the HLR evaluation framework (HLR-EF).

Results: The literature search resulted in identification of nine reviews. A total of 383 outcomes were identified from these reviews and included in the content mapping process, which resulted in a total of 26 core outcome domains. Experts ($n = 15$) participated in the three-round Delphi process, which resulted in consensus on 15 core outcome domains in HLR-EF allocated under five headings.

Conclusions: The study has successfully managed to identify a set of core outcome domains applicable in future evaluations of HLR interventions based on systematic methodologies and expert consensus. Context-sensitive manuals for the use of the HLR-EF is under development and the instrument is ready to be applied in future evaluation of HLR interventions, potentially making future measuring, reporting and comparison of results significantly easier.

Key messages:

- Instruments facilitating evaluation of HLR interventions are non-generic and inconsistent.

- HLR-EF has been developed using a narrative literature review, content mapping, and a Delphi process, and defines 15 core outcome domains for evaluation of HLR interventions.

Abstract citation ID: ckae144.1674
Predictors of infectious disease-related behaviors among adolescents in Armenia

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Background: We explored the behaviors related to infectious diseases (ID) and its predictors among 15-17 years old adolescents in Armenia.

Methods: We surveyed adolescents from public and private high schools in Yerevan and one province in 2023. The instrument explored ID-related behaviors, health literacy (HL), interest in health, and socio-demographics. ID-related behaviors were measured with five Yes/No questions about sharing a toothbrush, covering their mouth when coughing or sneezing, and washing hands with soap and water - before eating, after using the bathroom, and when coming home. HL was assessed with ten questions on a scale from 'Strongly disagree' to 'Strongly agree'. Summative scores were calculated for ID-related behaviors and HL. Multivariable regression analysis explored factors associated with ID-related behaviors.

Results: Overall, 366 students completed the survey, most of them being females (64.4%). The majority were interested in health issues (80.7%). Almost all respondents reported not sharing a toothbrush with other persons (97.9%) and usually covering their mouth when coughing or sneezing in public places (94.1%). Somewhat lower percentages reported washing hands with soap and water before eating (82.0%), after using the bathroom (89.2%), and when coming home (86.6%). The mean behavior score was 4.52 out of 5 (SD = 0.92) and the percent score was 90.4%. The average HL score was 17.41 out of 30 (SD = 4.47). In the regression analysis, being female vs. male, being interested in health vs. not, studying in private vs. public schools, and having higher HL were independent significant predictors for higher score of ID-related behaviors.

Conclusions: Armenian adolescents reported high levels of compliance with ID-related behaviors. Improving health literacy and fostering interest in health can help further enhance the performance of preventive behaviors. Interventions targeting public schools and male adolescents are particularly pertinent.

Key messages:

- Being female, studying in private schools, having higher interest in health issues, and better health literacy independently positively influence infectious disease-related behaviors.
- Promoting health literacy and fostering interest in health in high schools have the potential to further enhance infectious disease prevention behaviors among adolescents.

Abstract citation ID: ckae144.1675
Cross-sectional survey of health literacy among high school students in Armenia

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Background: We assessed the level of health literacy (HL) and explored its predictors among 15-17 years old adolescents in Armenia.

Methods: We conducted a survey among adolescents in public and private schools in the capital Yerevan and an adjacent province in 2023. The instrument included items on HL, general interest in health and socio-demographics. Ten questions measuring HL with four answer options were summed into the HL score (0-30). Multivariable regression model explored the independent associations of socio-demographic factors and interest in health issues with the HL.

Results: Overall, 366 students completed the survey. About 64% were females. The majority were interested in health issues (80.7%). Most participants felt they, in general, received sufficient health information (75.1%), could follow physician's instructions (80.1%), were confident in advising family or friends on health improvements (70.5%), could easily give examples of health-promoting actions (76.8%), and explain their choices for health (77.6%). Additionally, 82.2% could judge the environmental impact of their actions, 82.0% could find understandable health information when needed, and 85.3% could assess how their behavior affects their health. Fewer respondents were confident in figuring out if the health information is correct (68.2%) or identifying correct health information when faced with conflicting data (67.1%). The average HL score was 17.41 (SD = 4.47), with a 58.0% percent score. In the regression analysis, being from private school vs. public and being interested in health vs. not were significant predictors of higher HL.

Conclusions: Despite having moderate HL level, a significant portion of Armenian adolescents lacked confidence in discerning correct health information. Interventions should prioritize enhancing HL, emphasizing critical evaluation skills and providing accessible and reliable health information resources tailored to adolescents, particularly in public schools.

Key messages:

- The health literacy among Armenian adolescents was moderate with many lacking confidence in identifying correct health information and differentiating when faced with conflicting data.
- Attending a private school and having an interest in health were significant predictors for higher health literacy, emphasizing the need for targeted health and policy interventions.

Abstract citation ID: ckae144.1676
Health literacy and access to health services: insights from a national survey in Italy

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Background: Health Literacy (HL) entails accessing, understanding, evaluating, and applying healthcare (HC) information. Aim of this study is to assess HL association with HC services use in the Italian adult population.

Methods: A national survey was conducted in Italy in 2021, in the framework of the WHO network Measuring Population and Organizational Health Literacy (M-POHL). A validated questionnaire was administered to a representative sample of the Italian resident population aged 18+ years (N = 3,500). A 4-point Likert scale was used for answers: very easy, easy, difficult, very difficult. The HL index, as the percentage of very easy/easy responses, was categorized as Inadequate (0-50%), Problematic (51-66%), Sufficient (67-80%), Excellent (81-100%). Inadequate/Problematic were combined in

'Limiting' and Sufficient/Excellent in 'Not limiting' categories. A multivariate logistic regression analysis, adjusted by sex, age, geographical area, education, and financial deprivation, was used to explore the associations between HL and the frequency, of utilization of general practitioners-GPs (never, once/twice, three/more times), medical or surgical specialist services-MSS (never, once, twice/more), inpatient hospital services-IHS (never, once/more), day-patient hospital services-DPS (never, once/more), taking sick days at work-SD (never, once/twice, three/more) in the last 12 months, and emergency services-ES (never, once/more) in the last 24 months.

Results: In Limiting HL (64.6%), the prevalence of never using ES is significantly lower compared to Not limiting HL (81.83% vs 83.80%); likewise for never using MSS (45.84% vs 51.24%) and never using DPS (90.87% vs 93.80%). Significant association with Limiting HL was found for using MSS once (Odds Ratio-OR=1.55), twice/more (OR = 1.76) and taking SD once/twice (OR = 1.58).

Conclusions: Results demonstrate that people using HC services more frequently, in particular MSS and taking SD, require dedicated support to improve HL.

Key messages:

- This study aims to evaluate the association of the individual Health literacy level with the use of several healthcare services in the Italian adult population.
- 'Limiting' Health Literacy is associated with using medical or surgical specialist services twice or more times and taking sick days at work once or twice.

Abstract citation ID: ckae144.1677
A process evaluation of a LifeLab Dublin; an interactive health literacy intervention

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The argument for targeting adolescent health has been made strongly, with poor lifestyle behaviours often emerging during this life stage. Furthermore, there is consistent evidence of a widening socioeconomic gap in health indicators. Developing health literacy (HL) in youth populations to improve lifelong health behaviours has garnered increased interest in recent years. This process evaluation examines the acceptability, fidelity and dose delivered of the pilot of LifeLab Dublin: a nine-week, school-based HL intervention for low socioeconomic adolescents. The intervention, which comprised of two out-of-school, interactive HL experiences in conjunction with seven school-based lessons, took place between September and December in 2021 and involved students aged 11 - 13. The health issues targeted were previously identified by the teachers and students of the target population, and the learning activities within the out-of-school experiences were co-designed by adolescents of a similar demographic. Overall, the intervention was perceived positively by the students and teachers, particularly the two interactive out-of-school experiences. The teachers, however, highlighted issues with the volume and content of the school-based lessons, resulting in a reduced number of lessons being delivered. The fidelity of the two LifeLab experiences was high, demonstrating that the students engaged well with the learning activities and that the experience aligned with LifeLab's core principles and underpinning theoretical constructs. The findings from this study highlight the value in implementing experiential style learning in school-based HL education and the benefit of involving participants in the design of intervention. The evaluation provided valuable insight into the refinements required to enhance the efficacy of the intervention, as well as providing an evidence-base to inform future school-based HL interventions for low socioeconomic adolescents.

Key messages:

- The benefit of adopting experiential style health literacy education with young people.
- The benefit of including young people in the design of a health literacy intervention.

Abstract citation ID: ckae144.1678
An update on the concept and importance of health literacy in young people

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The burden of non-communicable diseases is a growing public health crisis that requires immediate action. As health literacy (HL) has been strongly linked with health behaviours and health outcomes, it has many potential implications for health care and health education. Although recent research has emphasised the importance of developing HL early in life, much of the research has focused on understanding and improving HL in adult populations. As young people socialise in different contexts and are exposed to different health-related situations, they require different HL competencies. As part of a wider project, this study aims to gather the perceptions of international academics and community-based practitioners on the concept and importance of HL in and for young people. Specifically, the study aims to (i) explore current understandings of the concept of HL in young people; (ii) examine the importance of HL for young people; (iii) identify those at risk of having low levels of HL; and (iv) determine the specific health behaviours that young people are currently struggling with. A stakeholder mapping exercise was used to recruit academic and community-based practitioners to take part in a one-to-one interview (n = 29). Reflexive thematic analysis was used to analyse the data. The preliminary findings suggest that HL is a very broad yet individualised concept that is critical to develop at an early age given the difficulty young people face in adopting healthy behaviours in their social and physical environment. Furthermore, the participants highlighted that minority groups, such as members of the travelling community and refugees, and those from low socioeconomic populations, are at greatest risk of low HL. Finally, the health issues that appeared to be of most concern in young people were vaping, social media use and poor mental health. These findings can be used to inform appropriate interventions and policies to target the HL of young people.

Key messages:

- Health literacy is a very, yet individualised, concept that is critical to develop given the difficulty young people face in adopting healthy behaviours in their social and physical environment.
- Minority groups, such as members of the travelling community, refugees, and those from low socioeconomic populations are at greatest risk of low levels of health literacy.

Abstract citation ID: ckae144.1679
The association between health literacy and colorectal cancer screening uptake in Taiwan

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Background: Population-based cancer screening programs have been confirmed as a cost-effective strategy for early detection of colorectal cancer, leading to reduced mortality and morbidity. In Taiwan, the government has provided an immunochemical fecal occult blood test (iFOBT) every two years to all citizens aged 50 to 74 years since 2013. The study aims to determine the association between iFOBT uptake and health literacy (HL).

Methods: Data from the National Health Interview Survey (NHIS), a population-based cross-sectional survey conducted in 2021-22 in Taiwan, were applied. The European Health Literacy Survey Short Form (HLS-EU-Q16), self-reported iFOBT participation within the past 2 years, and covariates assessed by face-to-face interview. The present analysis included those age-eligible for screening (n = 3,871) and applied the survey-weighted multivariable logistic regression to estimate odds of iFOBT uptake between HL skill levels, controlling for age, education attainment, socioeconomic status, health status, and household urbanicity level.

Results: In general, 44.6% of participants had utilized the iFOBT, and 79.9% had adequate HL skills which reported higher iFOBT uptake rates (45.9%) than their counterparts (39.4%). Multivariable analysis showed that having adequate HL was associated with greater odds of iFOBT utilization (adjusted odds ratio [aOR] = 1.79; 95% CI: 1.29-2.49). Additionally, compared to those households registered in the township, participants in higher urbanicity levels had lower iFOBT uptake: city (aOR = 0.62; 95% CI: 0.47-0.82). Other predictors that contributed significantly were participants' gender and having 2 or more chronic diseases.

Conclusions: Inadequate HL skills and urban residency may reduce participation in the CRC screening program, despite its free availability. More efforts should include literacy-friendly designed materials and the provision of tailored support in urban settings.

Key messages:

- HL skills are significantly associated with the CRC screening uptake in Taiwan. Improving HL could have positive effects on people's participation.
- Urbanicity levels are also predictors associated with screening utilization. Disseminating health service information in localized ways should be a potential option.

Abstract citation ID: ckae144.1680
The association between cancer literacy and cancer screening behaviours: a systematic review

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Background: This study aimed at investigating the association between cancer literacy (CL) and adherence to cancer screening programs.

Methods: PubMed, Scopus and Web of Science were searched. Any study, published until March 2024, that investigated the associations between CL and cancer screening intention or uptake in any target population were eligible. For CL measurement, both validated and ad hoc tools were considered. For each outcome, articles were grouped according to the type of cancer investigated and results were narratively synthesized.

Results: A total of 3426 records were retrieved. After deduplication and screening process, six studies were included. Population enrolled was heterogeneous as well as the tool used to measure CL. Four studies explored the relationship between CL and screening uptake, one focused solely on screening intention and another investigated both intention and uptake. Significant association was found between CL and screening intention in the two studies included, with higher literacy levels correlating to increased intent for screening. A significant association between higher CL and skin cancer screening uptake was reported, while the uptake of prostate cancer screening was not significantly associated with CL levels. By contrast, mixed results were obtained investigating breast, cervix and colorectal screening uptake.

Conclusions: Higher levels of cancer literacy appeared to be associated with screening intention, while its association with screening uptake was found barely significant for any screening type, suggesting that other factors influence the actual screening uptake. However, the scarce number of studies, along with the absence of validated tools and the heterogeneity of target populations, limits the generalizability of the results. Further research, differentiating screening types and timelines and using multivariate models, is needed to clarify the role of CL in screening behaviours.

Key messages:

- Higher levels of cancer literacy appear to be associated with screening intention, suggesting its importance in promoting motivation for early cancer detection.
- Association between cancer literacy and screening uptake was found barely significant for any screening type, suggesting that other factors influence actual screening uptake, urging further research.

Abstract citation ID: ckae144.1681
Beyond the like button: how european public health institutions use social media in 2024?

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Background: In 2024, 62% of world's population actively use social media (SM), with people aged 16 to 64 spending an average of 2 hours and 23 minutes daily across 6,7 SM platforms - most people use Facebook but spend more time on TikTok. While these platforms are essential for disseminating public health information, this study aims to explore their use by public health institutions in European countries.

Methods: We analysed the SM engagement of 32 health institutions recognized by ECDC across 29 European countries. Data collected focused on Facebook, Instagram, X, LinkedIn, TikTok, and YouTube, including SM presence on official websites, number of followers, and posts from January to March 2024. Additional data included followers per 100.000 residents, with population statistics from Worldometer and SM usage from DataReportal.

Results: Most institutions (30) are active on SM, particularly on Facebook (28), X (23), Instagram (22), YouTube (22), and LinkedIn (21). Spain and Slovenia's institutions are active on all analysed platforms, while only four institutions are on TikTok. The most used platforms were Facebook and X, with averages of 59,7 and 58,1 publications, respectively. There are disparities in engagement across platforms, with Facebook having the highest average followers (177.241) and TikTok the lowest (1.961) among all platforms. Notably, the most followed platform within ten institutions did not match country's most popular platform, indicating a misalignment in SM platforms' strategy. There was an average of 2.756 followers per 100.000 residents among analysed countries.

Conclusions: Public health institutions in Europe are actively using SM platforms to disseminate health information, mainly Facebook, X, LinkedIn, and Instagram. Despite high engagement on Facebook and X, there is a need for strategic alignment with audience's preferences, particularly in underutilized platforms like TikTok, to optimize the effectiveness of public health communication.

Key messages:

- The majority of European public health institutions actively use social media, with Facebook leading; however, newer platforms like TikTok are underutilized.
- There is a need for public health institutions to realign their social media strategies to better match the platforms preferred by their audiences to maximize the effectiveness of their communication.

Abstract citation ID: ckae144.1682

Defining digital health literacy profiles in Spanish adults: a latent class analysis

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Background: According to different reports, Spain is among the European countries that use digital health technologies the most. However, to develop inclusive and fair digital health services, there is the need to feature digital health knowledge, skills, confidence, and a positive attitude about their significance. This work aims to draw a picture of digital health literacy levels in Spain.

Methods: A stratified sample of the Spanish population regarding gender, age group and area of residence was used. Participants were recruited from an online panel and by direct approach to balance quotas. Between May 2021- May 2022, participants filled a self-administered online survey, including the Spanish version of the eHealth Literacy Questionnaire (eHLQ) and the eHealth Literacy Scale (eHEALS).

Results: Digital health literacy showed similar mean scores, between 2.6-2.7 out of 5 with similar SD on each of the 7 dimensions of the eHLQ. The highest scores were related to knowledge about filling data in digital health services and knowledge about health and how the body works, and feelings about the usefulness of digital technology for health. In contrast, lower scores were related to sharing health information by technology, thinking that using technology gives access to better health services, and the possibility to contact usual health professionals with technology. Latent profile analysis identified 5 user profiles. Significant differences were found according to age, inhabitants per municipality, technology use, self-perceived health status, educational level, socioeconomic index and eHEALS scores; not by gender.

Conclusions: As the scores are similar in the different subscales, competencies, attitudes and confidence in digital health that they measure are balanced. However, the main challenge appears in granting users access to digital services that work, which involves the definition and monitoring of strategies until the final implementation.

Key messages:

- Digital Health literacy in Spain differs according to different aspects, not only age, educational or socioeconomic level.
- Confidence in usefulness is a common denominator among the five digital health service user profiles identified.

Abstract citation ID: ckae144.1683

Low health literacy is associated with health-related institutional mistrust beyond education

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Background: Institutional mistrust, the lack of confidence and overall suspicion towards authorities or systems, usually governmental, but also extending to the health sector, poses a major obstacle towards public health policies and actions. Lower educational attainment has been linked to higher mistrust, but the role of health literacy in particular remains unclear.

Methods: Cross-sectional study in the general adult population of Greece and Cyprus following proportional quota sampling (January 2022 to May 2023). The current analysis is based on a sub-sample of 292 participants, with complete information on health literacy (main exposure, assessed via the validated HLS-EU-Q16) and health-related institutional mistrust (main outcome, assessed via a new culturally adopted questionnaire comprising 11 items). Multiple linear regression was used to determine associations between the aforementioned factors, adjusting for educational attainment and other potential confounders.

Results: Exploratory factor analysis revealed 3 health-related institutional mistrust dimensions, towards: (a) governmental authorities and the media (i.e., the system), (b) doctors and other health professionals, and (c) the scientific community. Health literacy was negatively associated with all mistrust dimensions, with associations being particularly strong with mistrust towards the system (B, 95% CI per unit increase in the HL scale: -0.87, -1.58; -0.15) and the scientific community (-0.71, -1.11; -0.32). These association remained robust to adjustment for educational attainment and other sociodemographic factors.

Conclusions: Mistrust towards a perceived system, comprising the government and media, as well as towards the scientific community on health-related matters, is higher among individuals with low health literacy, irrespective of educational attainment. Enhancing health literacy could act as a novel target for public health approaches aiming to tackle health-related institutional mistrust.

Key messages:

- Health-related institutional mistrust is a complex phenomenon, which appears to have different dimensions, relevant to the perceived system, health professionals, and the scientific community.
- Low health literacy is an independent predictor of health-related institutional mistrust, rendering it a novel target for attempts towards reversing this phenomenon and its adverse health consequences.

Abstract citation ID: ckae144.1684

How to measure the general Environmental Health Literacy

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Background: Many environmental factors, both natural or man-made, are associated with health risks. To make informed decisions about these potential risks, certain skills and competencies are necessary. The concept of Environmental Health Literacy (EHL) which integrates aspects of Science Literacy, Health Literacy and Environmental Literacy encompasse these competencies. To assess to what extent individuals or groups are environmental health literate, a general Environmental Health Literacy Scale is necessary. To the best of our knowledge, there is no validated instrument to measure general EHL.

Methods: Two phases of scale construction were conducted: 1) Item development with deductive methods which includes a literature review and assessment of existing scales resulting in two suitable studies for scale construction. Included items were translated to German language. 2) Scale development with pre-testing of items followed by applying potential items (n = 38) to a sample of of 454 students. Internal consistency (Cronbach's alpha), Kaiser-Meyer-Olkin Criterion (KMO), Bartlett's test, Velicer's minimum average partial (MAP) test for number of underlying factors and Exploratory Factor Analysis using Principal Component Analysis with oblimin rotation and stepwise item reduction were assessed.

Results: Velicer's MAP identified 3 factors, Cronbach's alpha = .92, KMO = .92, Bartlett's Test revealed significant correlation. Seven items were removed from the scale due to low factor loadings (< .3). Factor 1 (access) explains 18% of variance, factor 2 (knowledge) 12% and factor 3 (reflection) 10%, respectively. Overall, the model explains 40% of variance. Model fit represented by RMSEA index = .05.

Conclusions: A new general EHL scale has been developed and proven to be suitable for a students sample. This marks the first step towards a validated tool for multiple purposes. Cultural adaptation as well as multiple language validations are in process.

Key messages:

- The process towards a general Environmental Health Scale has started.
- The development of a validated EHL scale will improve understanding on whether the general population or subgroups are able to gain, understand and act upon information regarding environmental health.

Abstract citation ID: ckae144.1685
Psychometric evaluation of a COVID-19 health literacy scale applying Rasch analysis

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Background: Assessing health literacy in times of the COVID-19 pandemic is vital, since health literacy has been highlighted as a personal resource for managing health information. The HLS-Covid-Q22 questionnaire was developed to measure self-reported COVID-19 health literacy in adults. It has been used and validated, mainly using confirmatory factor analysis, in some studies with different target groups. However, several comprehensive validation studies are needed to ensure the feasibility of a novel measurement tool. In the current study, Rasch analysis has been chosen, as this analysis transforms the categorical responses of the items of the HLS-Covid-Q22 into linear measures.

Methods: The psychometric properties of the HLS-Covid-Q22 were evaluated in a sample of 2187 German adults applying Rasch analysis. The data is from the German COVID-HL school survey that was generated by employing an online survey in school principals during the third infection wave from March to April 2021 in four federal states. Applying the Partial Credit Model for polytomous data, the responses to the HLS-Covid-Q22 items were transformed into linear measures, unidimensionality was tested and several indices to assess the quality of the measurement tool were computed.

Results: Unidimensionality of the questionnaire could be confirmed. The rating scale steps worked as intended. Participants used every rating category. Item fit could be verified. High reliability indices were found with a person separation index of 3.41, person reliability of .92, item separation of 20.08 as well as item reliability of 1.0.

Conclusions: The HLS-Covid-Q22 appeared to be a reliable and valid questionnaire which has not been validated by applying Rasch analysis before. Even though Rasch analysis is already a well-established validation method in other disciplines, it should be used to evaluate other health literacy questionnaires more often to gain comprehensive insights into the intended functioning of measurement tools.

Key messages:

- The HLS-Covid-Q22 questionnaire appears to be a valid and reliable measurement tool.
- Rasch analysis is an appropriate method to evaluate the psychometric properties of likert-type rating-scale questionnaires.

Abstract citation ID: ckae144.1686
The effect of health literacy course on the level of health literacy in medical students

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Health literacy (HL) concerns not only individuals but also health systems and health professionals. Most of the literature on HL has focused on patient factors, with little emphasis on the communication skills and practices of health professionals. Training is needed at all levels to understand the concept of HL and its impact on health inequalities. This study is an intervention study. Data were collected from 29 students taking the third year elective course at the Faculty of Medicine through an online survey. The survey consists of 40 questions aimed at assessing the demographic characteristics of the participants, the TSOY-32 Scale and some factors affecting HL. During the training period, role-play scenarios were played to teach the importance of HL, sample videos were watched to evaluate physician-patient communication, and case studies were conducted. The mean pre-test TSOY-32 scale score of the participants was 32.8±5.8. The mean post-test TSOY-32 scale score was 36.4±7.1. There was a significant difference between pretest and posttest groups in terms of TSOY-32 scale score (p = 0.033). Health professionals often overestimate patients' HL levels and do not have sufficient competence to effectively manage limited HL. These gaps need to be addressed through the curricula of medical schools and specialties.

Key messages:

- Training on health literacy improves medical students' communication skills, bridging gaps in patient care.
- Addressing health literacy in medical training enhances patient-doctor communication, vital for quality care.

Abstract citation ID: ckae144.1687
Health literacy and health-related outcomes among preschool educators: a cross-sectional survey

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Background: Given the increasing use of childcare services and the shortage of skilled workers, preschool educators are under particular pressure. Health literacy has previously been shown to be an asset for stress and well-being in school principals. Within the organizational health literacy in preschools project, the Health-Literate Preschools Survey aims to assess educators' health literacy levels and investigate differences in health-related outcomes based on these levels.

Methods: Preschool educators from a Bavarian county participated in a cross-sectional online survey in February 2024. Sociodemographic information, health literacy, and health-related outcomes (well-being, exhaustion, psychosomatic complaints) were assessed using established self-report tools. Descriptive statistics and variance analyses were carried out using SPSS.

Results: The sample consists of $N = 114$ preschool educators from a Bavarian region (94.6% female, Ø 41.5 years). Of the educators, 23.7% showed adequate, 50.0% problematic, and 26.3% inadequate health literacy levels. Kruskal-Wallis H analyses indicated statistically significant differences in well-being ($H(2, n = 113) = 14.200$, $p < 0.001$), exhaustion ($H(2, n = 114) = 6.098$, $p = 0.047$), and psychosomatic complaints ($H(2, n = 114) = 8.910$, $p = 0.012$) across health literacy levels.

Conclusions: The survey provides first-time insights into preschool educators' health literacy and health-related outcomes in Germany. Only one-quarter of preschool educators demonstrated adequate health literacy levels. Further, the findings confirm the link between health literacy and well-being and stress already shown for other samples. Health promotion initiatives for preschool staff should focus on strengthening educators' health literacy, especially given their role model function for children.

Key messages:

- This survey is the first assessment of health literacy among preschool educators, which is an important target group given their role model for young children.
- Preschool educators demonstrated overall low levels of health literacy, which is associated with well-being, exhaustion, and psychosomatic complaints.

Abstract citation ID: ckae144.1688
Food and nutrition literacy in Austria - results of a representative study

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Background: A healthy diet is a key factor in people's long-term health. The nutritional health literacy and food literacy of the population play a crucial role in this. In 2021, comprehensive data on these competences were collected for the first time in Austria.

Methods: Almost 3,000 people were surveyed online. Nutrition health literacy was assessed with the newly developed Nutrition Health Literacy Scale (NHLS) and food literacy with the Self-Perceived Food Literacy Scale Short-Form (SPFL-SF). Scores and subscores were calculated. Associations between socio-demographic and socio-economic factors and the competences surveyed were assessed using t-tests, variance analysis, correlations, and multivariate regression models.

Results: In terms of nutritional health literacy, respondents score an average of 60 out of 100 points, with judging (51 points) and applying (60 points) nutritional information being the most difficult. In the area of food literacy, respondents score an average of 62 out of 100 points. The most challenging areas are 'healthier choices' (44 points), 'healthy snacking' (52 points) and 'healthy eating in exceptional circumstances' (54 points). In both areas, men and people with less formal education score lower. In the case of nutritional health literacy, people aged 65 and over have greater difficulties. Conversely, this group performs better in the area of food literacy. Differences by income can only be seen for nutritional health literacy, to the detriment of low-income groups.

Conclusions: Possible options for action include the provision of quality-assured and target-group-specific information, the implementation of appropriate tools to facilitate the assessment of foods, and measures to strengthen assessment skills, digital health literacy, food and nutrition skills.

Key messages:

- The survey showed that there is potential for improvement in both nutritional health literacy and food literacy.
- The biggest challenge is to evaluate and use nutritional information and to stick to a healthy diet without making exceptions.

Abstract citation ID: ckae144.1689
Measuring Vaccine Literacy in Switzerland: How is the situation after COVID-19?

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Background: Vaccinations are one of the most effective medical health interventions and one of the most important preventive measures. However, the population is often unsure about vaccination, and the roles and responsibilities of the key actors seem often unclear. To adequately protect the population against vaccine-preventable diseases, the Swiss Confederation, the Cantons and other stakeholders have developed the National Vaccination Strategy and an associated action plan. For its implementation, studies on the population's knowledge, attitudes, skills, and vaccination behavior are crucial. Thus, the Swiss Federal Office of Public Health launched a study to assess vaccine literacy and its relation to vaccination readiness and behavior in the adult population in Switzerland.

Methods: A representative sample of 2,500 people living in Switzerland will be surveyed in summer 2024. The online questionnaire will include validated instruments, e.g. the HLS19-VAC Instrument to measure vaccine literacy or the 7C Vaccination Readiness Scale, as well as questions on correlates of vaccine literacy, vaccination readiness and behavior.

Results: The results of the survey will be presented, with a focus on vaccine literacy, vaccination readiness and behavior and their correlates. Specifically, differences among the three main language regions and between specific population groups will be shown. Further, a comparison with data from previous studies will be presented.

Conclusions: Despite having an advanced healthcare system, to date Switzerland has only partially reached its objectives in terms of vaccination, both for individual protection and collective immunity. New data on vaccine literacy, vaccination readiness and behavior as well as on the influencing factors are needed, especially after the pandemic, to guide effective future actions and measures to improve the vaccine coverage and public health in Switzerland.

Key messages:

- Due to the COVID-19 pandemic the topic of vaccination in general has received increasing attention and may has changed people's knowledge and attitudes towards vaccination.

- Newest data on vaccine literacy, vaccination readiness and behavior are necessary to inform future, targeted actions and increase vaccine uptake.

Abstract citation ID: ckae144.1690
Systematic review of reviews: occupational exposures and work disability

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Background: Occupational exposures significantly impact workers' health and may lead to temporary or permanent work absence. Although the effect of occupational exposures on work participation has been studied extensively, research remains fragmented in covering different exposures and outcomes. This review investigates the evidence on the associations between occupational exposures and work disability.

Methods: Following PRISMA guidelines, a systematic review of reviews was conducted using PubMed, Scopus, and Web of Science. Reviews and meta-analyses of observational studies examining associations between occupational exposures and self- or physician-assessed sickness absence or disability retirement, published until 2023, were included. The review findings were supplemented with an additional search for original studies published after 2012 focusing on exposures less covered by the reviews. Quality assessment was performed using AMSTAR and the NH quality assessment tools.

Results: A total of 21 reviews and meta-analyses and 35 complementing original studies were included. While 10 reviews covered psychosocial exposures and 19 reviews focused on temporary work disability, fewer examined other exposures like chemicals (3 reviews, 7 original studies) or permanent work disability (8 reviews, 17 original studies). Next, we'll further synthesize these studies to evaluate the levels of the evidence.

Conclusions: Our review found that published studies primarily focused on work-related psychosocial exposures and temporary work disability, revealing gaps in research on other occupational exposures like chemicals and permanent work disability.

Key messages:

- There's a need to explore a wider range of occupational exposures and their impact on work disability beyond psychosocial exposures.
- The focus of prior reviews on occupational exposures and temporary work disability underscores the importance of studying the impact of these exposures on permanent work disability in future research.

Abstract citation ID: ckae144.1691
Mental health literacy in German teachers – What do they know? What do they need?

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Background: Preventing mental health problems and promoting mental wellbeing is the aim of school-based mental health literacy (MHL) programs. Previous research suggests that good MHL (knowledge and skills regarding mental health, resilience, and help-seeking) helps people to take good care of their own and others' mental health and use support-services. In this context the MHL of teachers is highly relevant, as they act as role models and interact with affected pupils on a regular basis, for which certain knowledge and skills are necessary. In this study, we therefore seek to investigate the level of MHL in German high-school teachers as well as their exposure to impaired students and their desire for further education on pupils' mental health.

Methods: The data are collected as part of an effectiveness study of a school-based intervention to strengthen MHL (BEWARE), which was developed by our working group. We collect data from teachers who are involved in BEWARE as coaches as well as from those not directly involved ($n \approx 300$). Data collection takes place online at three measurement timepoints (6 months apart each). For the analysis presented here, data of the first measurement timepoint with respect to MHL, skills in handling affected students and wishes for additional education on pupils' mental health are included.

Results: As the data collection is still ongoing, statistical analyses are not yet completed. We will present data on the current state of knowledge on MHL in German teachers as well as their abilities to deal with affected pupils and their wish for further education. In addition, we will relate the number of affected pupils they teach to depict the relevance in their daily life at school to the above-mentioned measures.

Conclusions: The acquired data and respective analyses will give us important insights about the objective and subjective need of MHL training in schoolteachers (based on assessed knowledge and their reported wish of additional education).

Key messages:

- Our study will give us important insights about the objective need of MHL training in high-school teachers based on assessed knowledge.
- Our results will depict which formats of training teachers would prefer for additional education on pupils' mental health, which will be a valuable basis for the development of future programs.

Abstract citation ID: ckae144.1692
Assessing cancer prevention literacy among European population: a cross-sectional study

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Background: Cancer prevention literacy (CPL) is essential for empowering individuals to make health-informed decisions and adopt preventive measures to reduce their cancer risk. This study aims to measure CPL among the European population.

Methods: A cross-sectional population-based study was conducted from February to March 2024 among European residents over 18 years old ($N = 2312$) in the context of BUMPER Project (https://bumper.cancer.eu/). An online self-administered questionnaire was developed including: sociodemographic characteristics (age, gender, country of residence, educational level), and CPL (general and by European Code Against Cancer -ECAC- topics). A descriptive analysis was performed and the chi-square and Kruskal-Wallis test were calculated to examine the relationship between CPL and sociodemographic variables.

Results: 44.2% showed a high level of CPL, followed by 39.5% with medium, and 16.3% with low level. 61.1% of participants are not aware of ECAC. ECAC topics with higher levels of knowledge are:

UV exposure (88.3%), pollution (81.6%), tobacco (78.7%), second-hand smoking (60.9%). ECAC topics with lower levels are: hormone replacement therapy (47.9%), breastfeeding (41.6%), and vaccination (32.9%). Statistically significant differences ($p < 0.05$) are observed in CPL level by gender, country of residence, and educational level. Those with a higher % of low CPL levels are men (22.8%), people from West and South Europe (20.8% and 18.1%), and primary education level (34.7%).

Conclusions: CPL level is medium-high among the European population, with social and gender inequalities. Further studies are needed to delve into these inequalities.

Key messages:

- The cancer prevention literacy level is medium-high among the European population, with social and gender inequalities.
- There is a need of tailored interventions to address social inequalities in cancer prevention literacy among European population.

Abstract citation ID: ckae144.1693
Implementation of organizational health literacy depending on school characteristics in Germany

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Background: Children and adolescents are important target groups for health promotion measures to sustain a healthy upbringing. Organizational health literacy in schools is a promising environmental intervention to strengthen health literacy in school children. This study examines the relationship between school characteristics and the implementation of organizational health literacy.

Methods: School principals in Germany were invited to complete a 20-minute online survey between November 2022 and July 2023. An 8-item self-report tool was used to measure organizational health literacy in schools (OHLS-Q-SF) that comprehends eight different areas within schools to become health literate. A hierarchical cluster analysis was carried out to identify groups according to the composition of the socioeconomic status of the student body. Descriptive statistics, Mann-Whitney-U tests, and Kruskal-Wallis tests were performed.

Results: 598 school principals (73.6% female, Ø 52.3 years old) who worked at primary schools (49.1%), secondary schools (37%), and special education schools (13.9%) completed the survey. Cluster analysis revealed two groups. The first one (36.8%) contains schools with mainly students with lower socioeconomic status, and the second group (63.2%) contains schools with more students from middle or higher socioeconomic status. The socioeconomic status of students within the schools showed no significant results for any area of organizational health literacy, whereas all eight areas are more likely implemented if the schools already participate in a school health promotion program or network ($p < 0.001$).

Conclusions: Participating in a school health promotion program was associated with higher levels of implementation in all areas of organizational health literacy in schools. This finding highlights the importance of those programs. Integrating organizational health literacy into those interventions can be a beneficial approach to sustaining health literate schools.

Key messages:

- Participating in a school health promotion program or network might facilitate schools to become health literate organizations.
- In Germany, the socioeconomic status of the students within the schools is not associated with the implementation of organizational health literacy.

Abstract citation ID: ckae144.1694
Making health information understandable: the COVID-19 patient guideline

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Issue: Evidence-based practice guidelines offer a reliable source of information, providing recommendations based on the most recent evidence. However, these guidelines are complex and difficult to understand for laypersons. This creates a knowledge gap, affecting shared-decision making, treatment acceptance, understanding of a disease and recommendations of disease prevention.

Description of the problem: Patient guidelines (PatG) aim to bridge this knowledge-gap by providing simplified versions of practice guidelines in lay language. This is a common practice internationally. An example is the German evidence-based COVID-19 practice guideline, published in 01/2024. In March, a multidisciplinary team, including a patient representative, created and reviewed a PatG outline, prioritising topics based on patient relevance, and discussed relevant information. The authors translated guideline recommendations into lay language, researched additional information, and created supporting graphics. A methodology chapter explaining both guidelines and a short medical term dictionary were also included.

Results: In 05/2024, the COVID-19 PatG, around 70 pages long, was finalized including information on treatment, diagnostics, intensive care, and support resources. A feedback round was initiated. Comments will be incorporated for the final version to be published in the national guideline registry by end of 05/2024. Updates of the PatG and practice guidelines will occur frequently.

Lessons: We faced challenges in simplifying medical concepts and interventions and accurately translating recommendations without losing key information. The length of the PatG may discourage readers. Despite these challenges, we are committed to enhancing accessibility, using simpler language, and adding supporting graphics to improve the PatG in the future.

Key messages:

- Despite some challenges, patient guidelines pose as a reliable form of patient information.
- The COVID-19 patient guideline is a reliable and evidence-based source of information.

Abstract citation ID: ckae144.1695
Development of a tool for generating comprehensible, individualized and digitalized outpatient letter

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Background: Patients often remember little from a medical consultation or a conversation with a doctor. A comprehensible, individual patient letter summarizing the consultation can support, as a German project which successfully implemented a digital tool to generate such a letter in inpatient care showed. Based on this, our aim is to develop a tool for letters in outpatient care in Switzerland, to support understanding of the consultation and increase patient's health literacy (HL).

Methods: The development of the tool was conducted participatively with targeted health professionals (HP) and patients with a chronic disease to 1) identify specific patient groups and situations, 2) confirm eligibility and receive concrete input regarding structure and content, and 3) to ensure the technical practicality and usability by the target groups. Concretely, several expert and patient interviews, a focus group and consultation observations were performed. Further workshops and usability tests are planned.

Results: We first defined 8 criteria to identify situations suitable for the development of the letter (e.g. high information need) and interviewed 5 experts on selected topics. Based on this, chronic back pain was chosen for a deeper feasibility analysis: A focus group interview ($n = 4$ HP) and 5 telephone interviews with patients confirmed the eligibility and provided information on the structure and content of the letter. Observations of 5 consultations provided further insights. Then, a first concept for the letter's content was developed and is currently being finalized. It consists of: 1) summary; 2) background; 3) diagnosis; 4) treatment; and 5) next steps and includes infoboxes and a glossary.

Conclusions: The tool for patient letters can be adapted to other diseases (e.g. chronic back pain) and settings (outpatient care). In a next phase, the letter will be piloted in an outpatient clinic and evaluated with HP and patients. The effect on HL will also be assessed.

Key messages:

- Comprehensible, individualized, and digitalized patient letters can help patients to deal with health information and take better decisions for their health and well-being.
- The developed patient letter and the corresponding tool should be easily adaptable for other diseases and settings.

Abstract citation ID: ckae144.1696
The empowering role of health literacy in combatting fake news, misinformation and infodemics

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Background: In times of the rapid digital transformation, people need to acquire specific knowledge, skills and attitudes to deal with data, digital information and technology. Such skills are particularly important in times of crisis, as the COVID-19 pandemic has shown. Alongside the pandemic, a so called "infodemic" has emerged, i.e., an overabundance of information, accompanied by misinformation, which impedes sound decision-making processes, affects health literacy (HL) and impacts public health. However, while misinformation poses a well-known threat to our health and well-being, we still lack viable concepts and approaches to satisfactorily solving this issue. Thus, we aimed at reviewing the concept of HL in view of the infodemic and health-related challenges.

Methods: In a 12-month participatory process in Switzerland in 2023, we investigated the empowering role of HL in light of the polycrisis. On behalf of the Swiss Federal Office of Public Health, we conducted a literature review on existing HL definitions. Then, we conducted 6 expert interviews and 2 focus group interviews with other 10 experts in HL and associated domains, which guided and informed the review process.

Results: As a result, HL can be understood as a bundle of competencies to proactively deal with health-related information, services, and challenges and thereby empowers people to manage their and other's health and well-being. Thus, HL empowers people to better manage digital information and services and promotes critical thinking. This in turn is necessary to assess information quality, uncover misinformation and to adequately manage health data and information.

Conclusions: HL represents a crucial prerequisite for individuals, professionals, and decision-makers to find trustworthy health information, to reflect upon the quality and credibility of sources and content, and to understand the complex interrelations of the determinants of health and is therefore crucial for public health.

Key messages:

- Health literacy empowers people to adequately deal with fake news, misinformation and infodemics.
- Strengthening health literacy offers great potential for public health to promote critical thinking and to rebuild trust.

Abstract citation ID: ckae144.1697
Development and validation of a tool for assessing breast cancer health literacy among Chinese women

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Background: Breast cancer (BC) is a major malignancy that seriously threatens women's health. No unified, evidence-based, standardized assessment tools for BC literacy are available in China yet.

Objectives: We sought to develop an assessment tool to measure BC health literacy among Chinese women and to test the tool's reliability, validity, and feasibility.

Methods: Group discussion, expert consultation, and small-sample pilot investigation were conducted to develop an initial assessment tool. A multi-stage stratified random-sampling process was used to select women aged 18-64 years in Yichang City, Hubei Province, China, for an onsite survey. Project analysis and exploratory factor analysis were used to screen the questions to create a formal assessment tool, which was further evaluated by feasibility analysis and the measurement of reliability and validity.

Results: The official version of the assessment tool for Chinese female BC health literacy includes 32 items. Nine common factors (policy knowledge, uncorrectable risk factors, modifiable risk factors, identification of early warning signs #1 and #2, screening methods, breast self-awareness and examination behaviors, timely seeking of medical help and standardized treatment, and rehabilitation) were extracted through exploratory factor analysis with factor loadings of 0.511-0.873 and a cumulative explained variance of 65.989%. Confirmatory factor analysis revealed $\chi 2/df = 1.61$, $CFI = 0.91$, $TLI = 0.90$, $RMSEA = 0.04$, and $SRMR = 0.06$. The overall Cronbach's α coefficient was 0.875, and the split-half reliability was 0.770 (both >0.700).

Conclusions: An assessment tool for Chinese female BC health literacy was developed with acceptable feasibility, reliability, and validity. The application of this tool can help to promote BC prevention and control in China and may also benefit other countries.

Key messages:

- An assessment tool for Chinese female BC health literacy was developed with acceptable feasibility, reliability, and validity.

- The application of this tool can help to promote BC prevention and control in China and may also benefit other countries.

Abstract citation ID: ckae144.1698
Assessing cyberchondria and eHealth literacy differences in urban and rural China

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Background and Objectives: This study aimed to explore the association between cyberchondria and eHealth literacy in the general Chinese population, and to assess how this relationship changes between urban and rural residents.

Methods: Data obtained from a web-based, cross-sectional survey that evaluate cyberchondria and its impact on health in February 2024. The Cyberchondria Severity Scale - 12 item was used to measure the cyberchondria, while the eHealth Literacy Scale was used to evaluate eHealth literacy. Descriptive analysis was used to describe the background characteristics of the participants. Then, a multivariable linear regression model was then performed for urban and rural subsample to examine the relationship between cyberchondria and eHealth literacy, respectively, providing a comparative analysis between the urban and rural populations.

Results: A total of 634 individuals completed the questionnaire. The average age was 33.2 years ($SD = 7.4$), with approximately 50.3% ($n = 319$) being female. Urban residents made up 71.4% ($n = 451$) of the participants. The mean eHEALS scores for urban and rural residents were 31.9 ($SD = 4.3$) and 30.4 ($SD = 4.2$), respectively. The CSS-12 scores for urban residents were 40.3 ($SD = 7.58$) and for rural residents were 39.1 ($SD = 7.2$). Linear regression analyses showed a significant association between eHealth literacy and cyberchondria for urban residents (Beta = 0.30, $p < 0.001$), but age and education level had no significant impact. For rural residents, a statistically significant association between eHealth literacy and cyberchondria was also observed (Beta = 0.40, $p = 0.002$).

Conclusions: Overall, eHealth literacy consistently predicts cyberchondria severity in both urban and rural samples. Higher eHealth literacy is linked to greater cyberchondria, especially in rural areas. Future research should explore other potential mediators, including psychological factors, internet usage patterns, and access to healthcare services.

Key messages:
- eHealth literacy strongly predicts cyberchondria severity in both urban and rural populations, with a notably stronger impact observed in rural settings.
- Urban and rural differences highlight the need for customized digital health literacy programs to effectively address region-specific challenges and behaviors.

Abstract citation ID: ckae144.1699
Factors Influencing Health Literacy among South Korean Adults: A Nationwide Study

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Background: Health literacy is crucial for health knowledge, behaviors, and outcomes, but research on health literacy has been limited to specific populations and settings in South Korea. This study aimed to identify factors influencing health literacy in a nationally representative sample of South Korean adults to inform public policies.

Methods: This cross-sectional study utilized data from the 2020 Korea Health Panel survey (10,262 adults aged 18-84 years). Sociodemographic factors (age, gender, education level, monthly household income, employment status, marital status, household characteristics, and region) and health (subjective health status, presence of chronic diseases, depression, and health insurance status) factors were examined. Health literacy was assessed using the 16-item European Health Literacy Survey Questionnaire (HLS-EU-Q16). Linear regression analysis was performed to identify factors associated with health literacy.

Results: The mean health literacy score was 9.1 (SD 1.60), with significant differences across age groups ($p < 0.001$). Linear regression analysis (adjusted $R2=0.287$, $F = 322.83$, $P < 0.001$) revealed that higher age, female gender, lower education, lower household income, being single, living outside a metropolitan area, having chronic diseases, lower subjective health, depression, and being uninsured or receiving medical aid were significantly associated with lower health literacy (all $p < 0.001$).

Conclusions: This study identified several socio-economic and health-related factors significantly associated with health literacy among South Korean adults. The findings suggest that older individuals, who may require more time to understand and use health information, are particularly vulnerable to low health literacy. These results provide valuable insights for developing targeted interventions and public health policies aimed at promoting health literacy and successful aging in the context of a rapidly aging society.

Key messages:
- Various socio-economic and health-related factors significantly influence health literacy among South Korean adults.
- Older individuals are particularly vulnerable to low health literacy, which has implications for successful aging in a rapidly aging society.

Abstract citation ID: ckae144.1700
How to measure Organizational Vaccine Literacy: an exploratory cross-country survey

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Background: The project AcToVax4NAM (Grant No. 101018349-3° EU Health Programme) aims to ensure equal and guaranteed access to vaccination services for Newly Arrived Migrants (NAMs). The working group developed a tool that measured the level of Organizational Vaccine Literacy (OVL), defined as an organizational effort to make the Health System easier to access and navigate, thereby facilitating informed decision-making regarding vaccinations for individuals, families and communities.

Methods: A systematic literature review was undertaken to identify validated tools for measuring OVL, but none was found. Consequently, the review was broadened to include tools for assessing Organizational Health Literacy, which were then adapted to define OVL. A questionnaire consisting of 22 questions divided into 7 sections was developed, utilizing a scale of 1 to 5 to gauge

OVL. The survey was then distributed among healthcare services in 8 countries of the AcToVax4NAM consortium.

Results: We received 88 responses, mainly from Italy (26%), Spain (23%) and Greece (12%), encompassing 17 facilities, primarily vaccination centers and health prevention departments. Questions about the clarity and easy access to vaccination information provided by organizations had high mean scores, except the questions on the navigability of websites for foreign patients (mean scores $<$ 3). Notably, responses related to the issue of cross-sectoral collaboration between health services and other partners (e.g., patient associations, NGOs), had a mean score of 2.56. Low scores were observed in the area related to the perception of possible individual contribution to systemic organizational efforts.

Conclusions: Shifting to an approach in which organizations prioritize equity and address complex needs, rather than leaving it to individuals to navigate the complex world of healthcare providers, could bring benefits to population groups, particularly those at risk of not accessing prevention services, such as NAMs.

Key messages:

- After conducting a systematic review to identify validated instruments for the measure of Organizational Vaccine Literacy (OVL), a tool consisting of 22 questions was developed to measure OVL.
- Shifting to an approach where organizations prioritize equity and address complex needs, rather than leaving it to individual responsibility, could significantly benefit vulnerable population.

Abstract citation ID: ckae144.1701
Project Health Resilience: a health literacy programme for 16–19-year-olds delivered by doctors

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Background: Project Health Resilience is an education-setting based health literacy pilot for Londoners aged 16-19. This is a transitional age when young people independently engage with health services. Greater health literacy levels improve use of preventive services, successful management of long-term health conditions and reduce emergency service use. Research during the COVID pandemic also demonstrated the importance of building trust with health professionals to reduce health inequalities. The impact of poor health literacy is observed universally. This intervention was developed to empower young people at a critical time.

Methods: 3 bespoke modules (healthcare access; medical emergencies; mental health resilience) were co-produced with young people and delivered by doctors. During 2023, 46 sessions were carried out with 712 attendances across 8 London settings. A mixed-methods approach, including questionnaires and interviews, was used for the evaluation. The study explored whether taking part resulted in increased awareness of services, knowledge, confidence and trust in health professionals.

Results: Participants reported that topics filled a crucial gap in their learning. Awareness and confidence increased for: awareness of different health services (increase of 18%) and mental health services (38%), confidence calling emergency services (13%), confidence dealing with medical (34%) or mental health emergencies (40%). Knowledge questions answered correctly increased across the 3 modules (46% pre vs 60% post). Trust levels increased and findings suggest that doctors delivering sessions was a key component.

Conclusions: Findings add to the evidence base around education-setting based health interventions improving health literacy. Providing a unique opportunity for adolescents to engage with health professionals can increase trust levels. Doctors delivering health education at this critical age is a pioneering model which can be replicated in other settings.

Key messages:

- Health literacy education is particularly impactful at this critical age of transition; this can contribute to reducing health inequities across the life course.
- Trust, collaboration, and co-production were core principles upon which this pilot thrived. Without input from young people, it is difficult to design appropriate and impactful interventions.

Abstract citation ID: ckae144.1702
Health literacy and individuals’ perception regarding Heart Failure management: patient perspective

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Background: Heart failure (HF) is a multidimensional disease that has a significant impact on the quality of life of people with this condition and the person’s level of health literacy is a key element in disease management. Therefore, this analysis aims to assess the correlation between the level of health literacy of people with HF and their level of concern about managing the disease, their perception about quality of life, and access to healthcare.

Methods: Cross-sectional study conducted through a survey among adults with HF, residents, and healthcare consumers in Portugal. The survey comprised 6 questions on health literacy (HLS-EU-Q6); 9 dimensions of concerns in HF management (4-level scale ranging from “not concerned” to “very concerned”); quality of life and access to healthcare perceptions (5-level scale ranging from “very bad” to “very good”). Concerns global score was calculated based on 9 dimensions of concerns about HF management. The statistical analysis included Spearman’s and Pearson’s correlations.

Results: A total of 428 responses were analysed. Respondents had a mean age of 70 years, 52.1% were men and 67.9% have secondary education. 47.0% of respondents perceived their access to healthcare as “good”, 63.3 % perceived their quality of life as “reasonable” and 61% have low levels of health literacy. Individuals with a higher health literacy level tended to have lower levels of concerns regarding HF management ($r=-0.133$; $p=0.006$); individuals with a higher level of health literacy tended to have a better perception of their access to healthcare ($\rho=0.145$; $p=0.003$) and quality of life ($\rho=0.220$; $p<0.001$).

Conclusions: The findings reinforce that overcoming health literacy obstacles must continue to be a focus of healthcare systems and institutions to enhance healthcare access, quality of life, and chronic disease management. These efforts may result in better health outcomes, promote health equity and general well-being in this population.

Key messages:

- Individuals with Heart Failure with higher levels of health literacy report less concerns about the management of their condition.

- Individuals with Heart Failure and lower levels of health literacy have a worst perception of their access to healthcare and quality of life. Health literacy promotion must continue to be a priority.

Abstract citation ID: ckae144.1703
Co-designed Health Literacy Activities for Children in Primary Schools

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Early exposure to health literacy (HL) and fostering children's HL development for health promotion purposes is believed to positively influence their ability to lead healthier lives during adulthood (WHO, 2021). Our qualitative study on children's perspectives on health and HL showed that children perceive health in a broader context emphasizing aspects of everyday life. When engaging with health information, they often encounter irrelevant information and struggle to discern its trustworthiness (van Boxtel et al., in preparation). In this study, we aim to co-design HL activities with children in primary school for the context of health promotion. Children, aged 9-12 years, formed co-design teams and participated in six 1-hour sessions. Initially, they discussed what HL is and selected the most relevant HL skills to address. Through activities like body mapping, they explored ways to learn these skills. Subsequent sessions involved brainstorming ideas for the designing, and prototyping activities. A larger group of children tested these prototypes, followed by evaluations and improvements by the design team. Preliminary results indicate that children prefer designing HL activities that resonate with their everyday experiences. However, they often relied on familiar ideas unless aided to think creatively, therefore we used AI tools for ideation. The final designs, such as life-sized board game about healthy food, show potential to learn HL in schools. Results of the learning outcomes from these activities are pending and will be presented at the conference. Co-designing with children leads to meaningful HL activities that encourage active engagement with health information. This study inspired us to build a toolbox for learning HL skills for children aged 9-12-years-old in primary schools or childcare settings. We also aim to co-design other identified HL skills and competencies from our Delphi study (Van Boxtel et al., in preparation).

Key messages:

- HL activities co-designed by children reflect daily life relevance, fostering deeper engagement and learning.
- Using co-design, we enable children to actively engage with health information and learn specific HL skills.

Abstract citation ID: ckae144.1704
Youth voices: A participatory approach to promoting mental health literacy through digital means

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A concerning number of young people worldwide experience mental health challenges, often compounded by limited mental health literacy, such as a lack of knowledge about how to recognize mental disorders and strategies for seeking help (Cairns & Rossetto, 2019). Therefore, it is crucial to promote mental health literacy among youth. Due to the scarcity and often high cost of readily available mental health services, as well as concerns about anonymity, digital programs have become an alternative means of reaching youth. To this end, a digital prevention program was developed. The pivotal question now is how to effectively promote young people's mental health literacy through digital means, more specifically: How to develop (1) evidence-based and (2) target group-specific content? To investigate these questions, two systematic reviews were conducted that analyzed a total of 65 digital evidence-based mental health programs. Since the active use of programs also depends on how suitable and appealing the content is for the target group, a participatory approach was chosen to actively involve the target group in the process of developing the program's design and content. Therefore, four participatory workshops were conducted in Slovenia, Poland, and Austria, with 12-15-year-old students (N = 182). Selected results from the systematic reviews and cross-national results from the workshops will be presented. It was found that psychoeducation is an important and effective method for promoting mental health literacy among youth and that young people prefer this content to be delivered as briefly and concisely as possible, and in a multimodal format. The discussion will highlight key takeaways regarding the benefits and challenges of this approach, emphasizing the necessity of including student voices in the creation of psychoeducational content for a digital mental health program in order to highlight and recognize young people's right to participate.

Key messages:

- The value of youth participation - Involving young people in the development of content for a digital mental health literacy program is a means to increase its relevance and appeal to them.
- The intricacies of youth participation - Involving young people in the development of a digital mental health literacy program presents challenges that require careful consideration.

Abstract citation ID: ckae144.1705
Efficacy of digital interventions for smoking prevention among children: a systematic review

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Background: Smoking remains a leading preventable cause of morbidity and mortality globally, with initiation often occurring in childhood. Early smoking onset is linked to increased difficulty in quitting and higher risk of long-term health complications. Traditional prevention strategies have not fully succeeded in curbing youth smoking rates, highlighting the need for innovative approaches. Digital interventions (DI), such as gamified education, social media campaigns, and virtual reality, offer a novel avenue for engagement and education. This systematic review aims to assess the efficacy of DI in preventing smoking, and improving knowledge and awareness about smoking damages, among children. This review is part of the PRIN project, whose goal is to evaluate the effectiveness of a DI aimed at school-aged children, intended to increase knowledge about the negative effects of smoking and prevent its use.

Methods: On the 18th of March 2024, PubMed, Scopus, and PsycINFO were surfed for trials and observational studies evaluating DI for smoking prevention among children aged 6-12 years. Study quality will be evaluated using the Cochrane Risk of Bias Tool and New Castle-Ottawa scale. The protocol has been registered in PROSPERO.

Results: From 3,081 initially identified articles, 328 papers were removed because duplicate. The screening process is ongoing.

Conclusions: DI are a promising tool for engaging young populations through platforms they are familiar with and receptive to. By leveraging the high penetration of digital technology in the daily lives of children, these interventions have the potential to deliver smoking prevention messages in a compelling and interactive manner. Understanding the effectiveness of DI in smoking prevention can significantly contribute to public health by providing viable alternatives to traditional methods and potentially reducing future smoking-related health burdens.

Key messages:

- Evaluating digital strategies for smoking prevention among children could offer vital alternatives to traditional methods, potentially reducing long-term health risks.
- Digital interventions (DI) offer promising new ways to engage young audiences on smoking prevention using familiar platforms, potentially reshaping public health approaches.

Abstract citation ID: ckae144.1706

Systematic review of the Health Literacy Questionnaire (HLQ) for global health literacy development

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Background: The Health Literacy Questionnaire (HLQ) is used to inform programs and policies in more than 80 countries. It is a key needs assessment in the Ophelia (Optimising Health Literacy and Access) process, a codesign process to build effective interventions. Ophelia is applied in the European Commission Joint Action on Cardiovascular Diseases and Diabetes initiative (25 projects/13 countries). Given growing demand, an Ophelia digital platform is being developed, and confirmation of robust HLQ psychometric evidence is needed for user confidence in the interpretation and use of HLQ scores in their contexts. This study is a review of the HLQ.

Methods: Developed in Australia in 2013, the HLQ measures nine health literacy domains and is translated to 40 languages. A March 2024 PRISMA systematic search (PROSPERO CRD42022361966) identified 257 articles, which were screened for evidence about internal structure and reliability.

Results: Across 15 countries/languages, 22 articles were included. Study samples included diverse groups, settings and contexts. Out of the 18 studies that used factor analysis, three used the Bayesian approach. All 15 classical factor analysis studies reported satisfactory fit indices in restricted 9-factor models (range CFI=0.841 to 0.995, TLI=0.826 to 0.969, RMSEA=0.048 to 0.084), except two required correlated residuals for acceptable fit indices. Factor loadings were significant except for five items across five studies (range .20 to .99). Three studies used Rasch modelling and found all domains had unidimensionality except for Domain 9 in one study. Most studies reported Cronbach's alpha (range .57 to .95) across all domains, with only three studies reporting $\alpha<.7$.

Conclusions: The HLQ has exceptional robust psychometric properties across cultures and languages, paving the way for users to have confidence in HLQ psychometric validity evidence on the upcoming Digital Ophelia platform to support scaling up of health literacy development.

Key messages:

- The HLQ has robust psychometric properties across countries and languages.
- The HLQ 9-domain profiles can inform intervention development for equitable health outcomes.

Abstract citation ID: ckae144.1707

Training of women in the methodology of Gamification for the promotion of healthy habits in children

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Background: It has been evidenced that gamification has scope in the change of people behavior and in the acquisition of knowledge, therefore this methodology contributes to the promotion of health and adapts to the needs of children from the language of play, which increases their motivation in health literacy processes, so it is necessary to encourage the acquisition of new methodologies for community mothers and women caregivers, who are configured as promoters of healthy habits with their children.

Objectives: To train 150 women in the methodology of Gamification for the promotion of healthy habits in children; for which 20 sessions were developed addressing the following modules: a) Empowerment of women b) Gamification methodology c) Healthy habits and lifestyles d) Healthy eating e) Physical activity.

Results: The training of women evidenced a) the empowerment and recognition as health promoters for their life and that of their community b) the identification of the methodology of gamification and its application in processes of promotion of healthy habits c) a high adherence in the participation and learning through gamification methodology, training 150 women through sessions mediated by Information and Communication Technologies (ICTs), Learning and Knowledge Technologies (TACs) and Technologies of Empowerment and Participation (TEP) enabling the participation of women from urban and rural territories, which accounts for an inclusive process and democratization of health knowledge, impacting both women and their families, communities and children under their care, an average of 5 members per woman, benefiting 750 people in health promotion actions.

Conclusions: 150 women were certified, who from the application of the gamification methodology promote healthy habits in children, in their families and their communities, starting from the recognition of the experience of these in themselves to be health promoters in their territories.

Key messages:

- Training women in gamification methodologies to promote healthy habits in children strengthens the health system by empowering them in their role as health literacy teachers in their territories.
- ICT, TAC and TEP enable access to health education from an inclusive process that democratizes knowledge so that communities are active agents in health promotion activities.

Abstract citation ID: ckae144.1708
Public Health Literacy: a concept to develop – Qualitative study among public health professionals

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Background: Health literacy can be defined as individuals' motivation and skills to access, understand, evaluate, and utilize information to make decisions about their health. Despite Sorensen's widely used definition encompassing both individual and population levels, also known as Public Health Literacy, it remains poorly detailed and is rarely taken into account by measurement tools. As evidenced by the Covid-19 health crisis, limited public health literacy impacts reluctance to accept government recommendations, vaccine hesitancy, and fosters mistrust of science and conspiracy theories in the health field. The main objective of this study was to derive specific public health knowledge and skills from public health professionals for the general population constituted the first step of the development of a public health literacy measurement tools.

Methods: A qualitative study, based on ten semi-structured interviews with public health professionals from various settings (academic, hospital, health prevention, and promotion), working across various public health fields (nutrition, sexual health, mental health), has been conducted since March 2024.

Results: Preliminary analysis identified three main themes: (1) fundamental concepts including identification of health determinants, epidemiology and the purpose of public health interventions, (2) critical skills including the assessment of the level of evidence and reliability of public health information, and (3) civic orientation including environmental impact on health and community approach to interventions.

Conclusions: These detailed insights will guide the creation of a valid measurement tool for public health literacy. This will facilitate the investigation of specific impacts on people's adherence to public health interventions or messages and the development of actions targeting literacy in a more holistic manner.

Key messages:
- Specific public health dimensions have been identified to enrich the existed definition of health literacy.
- Public health concepts, reliability of public health information and community approach constitute the core of public health literacy.

Abstract citation ID: ckae144.1709
Can ChatGPT affect health literacy?

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Background: ChatGPT is a large language model based on artificial intelligence, which nowadays finds application in various fields, including medicine.

Objectives: To investigate the usefulness of ChatGPT related to health literacy and to highlight its potential limitations.

Methods: We searched PubMed/MEDLINE for published research and articles that reviewed ChatGPT in the context of health literacy, written in English over the past five years with free full text access. All original articles were screened.

Results: A total of 53 publications were found. Twenty-five publications met the inclusion criteria and were included in the review. Most of the works presented a positive opinion towards the use of ChatGPT. The authors of six articles believe that ChatGPT generates more readable papers, while four of them believe the opposite. In four articles authors found out possibility to simplify text. The negative sides relate to the possibly insufficient education of users, the accuracy of the information, potential bias, dependence on the outdated data, and the ethical problem of the real authors not being cited, and therefore not recognized for their work.

Conclusions: According to the conducted research, ChatGPT represents an opportunity to improve health literacy by generating accessible and comprehensible information about health. It has also been shown to improve the readability and accessibility of public education materials on selected health topics. Furthermore, while AI models like ChatGPT can serve as a reliable source of health information, they should be used as an addition to professional medical consultation, and not as a standalone advice service.

Key messages:
- ChatGPT represents an opportunity to improve health literacy.
- AI models like ChatGPT can serve as a reliable source of health information, but they should be used as an addition to professional medical consultation, and not as a standalone advice service.

Abstract citation ID: ckae144.1710
Educational and communication strategies to promote HPV vaccination: A Systematic Review

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Background: Despite the evidence supporting the value of vaccination, Cervical Cancer (CC) and HPV-related diseases still represents a public health challenge, requiring international efforts to address all barriers that can reduce vaccine acceptance and equitable uptake. In this context, implementing interventions aimed at enhancing knowledge levels within target populations emerges as a crucial approach to improve vaccination coverage. Thus, this study conducted within the PERCH project (PartnERship to Contrast HPV), aimed to explore all educational interventions/communication strategies adopted at the international level to improve HPV vaccine uptake.

Methods: A systematic literature review was conducted by querying three databases from July 1, 2006 (the time of the first HPV vaccine licensure) to January 30, 2024. It included studies focused on educational interventions/communication strategies adopted by healthcare providers (HCPs) targeting the World Health Organization (WHO)-recommended population for HPV vaccination, as well as parents, caregivers, teachers, and other influential individuals involved in vaccination decision-making.

Results: Overall, 16 studies were considered, with 68.7% (11/16) focusing on educational initiatives and 50% (8/16) on communication strategies. Regarding the target population, 19% (3/16) involved parents/caregivers, 25% (4/16) included both parents and adolescents, and the remaining 56% (9/16) targeted adolescents/young adults. Videos were the most commonly used channel for both types of interventions (54%), followed by informative materials (31%), person-to-person solicitation (17%), social media (15%) and slide presentations (23%).

Conclusions: Understanding the strengths and weaknesses in HPV knowledge and communication is crucial for developing effective, tailored strategies to disseminate reliable information and promote evidence-based knowledge, thereby implementing high-value healthcare.

Key messages:

- Effective communication of vaccination's value to stakeholders is essential for informing health policies, guiding best practices, and countering misinformation.
- Further research is needed to develop interventions that effectively increase HPV vaccine acceptance, aligning with the WHO's goals to eliminate CC and HPV-related diseases.

Abstract citation ID: ckae144.1711
Exploring the Relationship Between Health Literacy and Alcohol Consumption Patterns in Tuscany

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Introduction: Alcohol consumption is a prevalent aspect of social and cultural life worldwide. However, high and binge consumption has become a significant public health concern. Inadequate health literacy (HL) may contribute to poor awareness and/or knowledge regarding the risks of alcohol-related behaviors. However, to date, only a few studies have examined the relationship between HL and different types of alcohol consumption. This study aimed to investigate the relationship between HL, other sociodemographic determinants, and their influence on high and binge consumption among the general population aged 18-69 in Tuscany.

Methods: The study analyzed data from 2017 to 2022 from a Tuscan population subsample in the Italian Behavioral Risk Factor Surveillance System PASSI. HL was assessed using the Italian version of the six-item European Health Literacy Survey Questionnaire (HLS-EU-Q6).

Results: Among the 12,953 interviewees, binge drinking was reported by 8.3%, while high consumption by 3.6% of the entire sample. In the multivariate logistic regression, participants aged between 50 and 69 years with problematic or inadequate HL levels had an increased adjusted odds ratio for high alcohol consumption. Instead, females, individuals older than 34 years, and those of foreign nationality had a reduced odds ratio for binge drinking. Low HL was a predictor of high alcohol consumption but not of binge drinking.

Discussion: As expected, young males are more likely to engage in binge drinking, while older individuals are more likely to have high consumption. In a challenging period for healthcare system sustainability, it is mandatory to use economic resources efficiently and target the right population with tailored interventions: given that HL impacts on high consumption, research and policy should focus HL interventions specifically on high alcohol consumers. Conversely, educational campaigns aimed at increasing HL in binge drinkers risk to have a lesser impact.

Key messages:

- Health literacy does not influence binge drinking.
- Inadequate levels of health literacy predict high alcohol consumption.

Abstract citation ID: ckae144.1712
Uptake and effectiveness of an Instagram intervention on AMR for undergraduate students

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Background: With the large volume, diversity and amount of information shared on social media, this offers opportunities to deliver and disseminate health interventions through these platforms. Social media campaigns have been found to be effective in raising public awareness of health issues during the COVID-19 pandemic. Social media is however not widely used to raise awareness on antimicrobial prescribing and resistance.

Aim: To study the potential of Instagram as a tool for promoting awareness and understanding of critical health issues such as AMR among undergraduate students.

Methods: A 3-month Instagram-based educational intervention with Instagram posts with messages on AMR was implemented from January to April 2024. The planning phase involved two co-design sessions and two key-informant interviews, which provided valuable insights and guidance for structuring the intervention. The messages on AMR were developed based on the planning phase to ensure relevance and effectiveness. To evaluate the impact of the intervention, pre and post-intervention surveys were conducted to measure the knowledge levels of the participants.

Results: 126 students signed up for the intervention by following the instagram account and filling the pre-intervention survey. A total of 36 messages were posted during the intervention with an engagement of 2.5% and a daily engagement of 4.6%. The average likes per post was 14.

Conclusions: Type of message and change in knowledge on AMR will be explored to inform future Instagram AMR awareness campaigns.

Key messages:

- Social media interventions can be effective in raising awareness when co-designed with the target audience.
- A good content mix with engaging short format content is key in capturing the attention of the target audience on social media.

Abstract citation ID: ckae144.1713
The Effect of Parents Health Literacy Level on Attitudes Towards Childhood Vaccinations

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While the importance of vaccination services increases day by day, WHO declared vaccine hesitancy as one of the 10 threats to global health in 2019 due to the decrease in vaccination numbers in recent years. Raising parents awareness about childhood vaccines with adequate and accurate information is likely to positively affect vaccination decisions.Although the level of knowledge on this subject depends on parents being able to obtain information using the right sources, this situation can also be associated with a sufficient level of health literacy.This study aimed to evaluate how parents health literacy level affects their attitudes towards vaccines. This cross-sectional study was conducted through a facetoface survey with 400 parents of children under the age of 18 who applied to the Istanbul Faculty of Medicine, ChildHealthDiseasesPolyclinic. Asdata collection tools, a survey form including general approaches to preventive health services and knowledge level about vaccines, as well as the TSOY-32 and PACV were used. As a result of our study, the average of the correct answers given by the participants to the questions regarding their vaccination knowledge levels was determined as

12.1±4.3. The average health literacy general index score was found to be 33.6±4.5. It was determined that 2.5% of the parents had insufficient health literacy levels, and 67.8% had problematic or limited health literacy levels. Parents received a total score of 30.2±23.7 (13 (1-83)) from the PACV scale. It was determined that 13.5% of parents were hesitant about childhood vaccines. It was determined that individuals with vaccine hesitancy had lower general health literacy and vaccine knowledge levels, and they used the media and neighbors as sources of information at a higher rate. Additionally, it was determined that low level of knowledge about the vaccine(OR 1.4 95%CI 1.3-1.6). and using the media(OR 2.3 95%CI 1.0- 4.9) as a source of information poses a risk for vaccine hesitancy.

Key messages:

- Providing community-based training to increase the health literacy level of parents will also create positive changes in vaccine hesitancy.
- Community-based studies should be carried out regarding misconceptions about vaccines, especially those acquired from the media, and individuals should be made aware.

Abstract citation ID: ckae144.1714

Mental health literacy in Austria - results of the first representative population survey

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Background: Mental health has been a pressing public health issue long before COVID-19 and is even more so now. In this context, strengthening mental health literacy (MHL) is seen as a key lever for improving the mental health of the population. qAs there are no nationwide data available, the aim of our study was to collect data on MHL in Austria.

Methods: Data on population MHL were collected in 2023 as part of the second wave of the 'Health Promotion Panel', a representative survey of the Austrian resident population aged 16 and over. Data were collected online and by mail from approximately 1,000 individuals. As part of the M-POHL Health Literacy Survey 2024-2026, we developed and tested a new survey instrument to measure MHL. The MHL instrument comprises 26 MHL tasks distributed across four domains (mental well-being, mental stress, mental health problems, mental illness). The respondents were asked to rate the tasks according to their perceived ease and difficulty. Associations with sociodemographic factors and mental well-being were examined using bivariate and multivariate methods.

Results: In all four domains of MHL, respondents rated tasks related to finding and understanding information and services as easier. Tasks related to judging and applying information and services were rated as more difficult. The results indicate that MHL differs according to age and educational level. Across all tasks and domains of MHL, people aged 60+ and those with lower education exhibited greater difficulties with the MHL tasks. While people aged 60+ had the greatest difficulty in judging information and services, people with lower education had greater difficulty in almost all domains.

Conclusions: This study was the first representative study on MHL and showed major deficits in MHL among the Austrian population, also in prevention and health promotion. Targeted interventions are urgently needed to strengthen MHL in Austria, targeting the most vulnerable population groups.

Key messages:

- A large proportion of the Austrian population has difficulty dealing with information and services to promote, maintain and restore mental health.
- The difficulties also affect the areas of prevention and health promotion that are crucial for coping with mental stress and enhancing well-being in everyday life.

Abstract citation ID: ckae144.1715

Impact of digital health literacy on public health: an umbrella review

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Background: Digital health literacy (DHL) is increasingly important for public health initiatives in the digital era. However, its impact on public health outcomes remains unclear. This umbrella review synthesizes evidence on relationships between DHL and public health.

Methods: Electronic databases were searched from 2010 to January 2024 for reviews evaluating associations between DHL and public health outcomes. Two independent reviewers screened records and extracted data. Results were narratively synthesized and screened respect quality using Amstrar 2 check list.

Results: 12 reviews met the inclusion criteria. Higher population DHL was consistently linked to positive health behaviors like preventive screening uptake, medical adherence, chronic disease management, and vaccination. However, lower DHL correlated with health disparities and exacerbated risk of mis/disinformation. DHL interventions improved eHealth skills and health status.

Conclusions: Digital Health Ltieracy shapes engagement with digital public health tools and programs. Integrating DHL assessments into planning can help identify at-risk groups and optimize interventions. Developing population DHL through education represents an avenue to advance health equity and resilience against digital health threats. However, more evidence and more digital maturity of tools appear to be necessary.

Key messages:

- Digital Health Literacy as milestone of next health generation.
- Health outcomes are clearly linked to digital and digital health literacy.

Abstract citation ID: ckae144.1716

Associations between maternal health literacy and prenatal micronutrient intake in Hungarian women

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Background: Adequate level of health literacy (HL) is an important factor in pregnancy. Low HL may increase the risk of maternal and fetal complications (e.g., gestational diabetes mellitus, low birth weight). This study aimed to measure the levels of maternal HL and its associations with the consumption of folic acid (FoA), vitamin D (VD), and omega-3 fatty acids (FAs) during pregnancy in Hungarian women.

Methods: The questionnaire-based study was conducted at the Department of Obstetrics and Gynecology, University of Szeged among women who gave birth between June and September 2023 (N = 294). Sociodemographic, lifestyle, conception and pregnancy related questions were asked. HL was measured by the Maternal Health Literacy Inventory in Pregnancy (MHELIP) questionnaire (after the Hungarian adaptation); it contains 48 items representing four subscales (maternal health knowledge, search for maternal health information, assessment of maternal health information, and maternal health decision making and behavior). Data analysis was performed by SPSS 29.0. (Ethical permission: 5351)

Results: The mean age of women was 31.53 +-4.75 years. During pregnancy 84.5% of women consumed FoA, 61.8% VD and 41.8% omega-3 FAs. The total mean score of MHELIP on a scale 0-100 was 78.93 (95%CI: 77.77-80.08); the score of “search for maternal health information” subscale was the lowest [57.68 (95%CI: 56.20-59.16)], and the score of “maternal health decision making and behavior” was the highest [86.75 (95%CI: 85.62-87.87)]. Omega-3 FAs and VD consumption was significantly higher in women with higher total and subscales mean scores (except “search for maternal health information”), while FoA consumption was significant in case of “assessment of maternal health information”. (The results are preliminary.)

Conclusions: The association between micronutrient consumption and HL supports that using this tool during pregnancy the mothers who needs more support and health information can be identified.

Key messages:

- The Maternal Health Literacy Inventory in Pregnancy questionnaire is a reliable tool for measuring health literacy in Hungarian pregnant women.
- Maternal health literacy plays an important role in the healthier lifestyle, including prenatal vitamin/micronutrient consumption.

Abstract citation ID: ckae144.1717
Enhancing literacy among the elderly on sexually transmitted infections: an educational intervention

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Issue: Sexually transmitted infections (STIs) pose significant public health concerns across different settings and countries, especially in elderly populations, in which recent increases have been noted. This project aimed to target STIs literacy among the elderly, addressing a crucial gap in public health education.

Description of the problem: This project focused on improving STIs literacy among elderly residents in a municipality in Northern Portugal. Using innovative methods such as tailored materials and interactive sessions, the intervention aimed to evaluate their effectiveness through pre-, post-, and one-month follow-up STD-KQ questionnaire assessments (composite score of total correct calculated as average, ranged from 0 to 27). Statistical analysis used SPSS IBM for Mac OS® v29. Descriptive statistics: mean ± standard deviation for continuous, proportions (%) for categorical variables. Analysis included only individuals with complete data. ANOVA with Bonferroni post hoc tested intervention impact on STD-KQ scores.

Results: Fifty-one individuals participated in this study, with an average age of 70,89 ± 5,10 years old, and 64,7% female. The average STD-KQ score increased by 151.54% immediately after, 11.39 ± 5.66 ($p < 0,01$), and by 122.54% after one month, 10.08 ± 5.35 ($p < 0,01$), compared to pre-intervention, 4.53 ± 3.96 ($p < 0.01$). The score at one month follow-up remained similar to post-intervention ($p = 0.39$), presenting a significant improvement in STIs knowledge.

Lessons: This pioneering project, to the best of our knowledge the first of its kind, demonstrates the effectiveness of tailored educational interventions in improving STIs literacy among the elderly, with sustained effects after one month. This innovative approach can be adapted and scaled up for broader use in different settings and countries.

Key messages:

- Tailored educational interventions can be a powerful public health strategy to effectively enhance long-term STI literacy among elderly populations.
- Assessing knowledge about STIs can be a crucial initial step for physicians to provide or refer for comprehensive education on safe sexual practices in this age group.

Abstract citation ID: ckae144.1718
Assessment of the level of health literacy in students with specific learning disorders

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Background: Specific Learning Disorders (SLDs) include dyslexia, dysorthography, dysgraphia, and dyscalculia and are referred to as specific educational learning disabilities. For students with SLDs, the issue of health literacy (HL) arises because understanding, evaluating and utilising health information are critical to making informed decisions about one’s health. This study aims to determine the level of HL in students with a certified SLD.

Methods: From November 2023 to April 2024, students with an SLD studying at the University of Udine (Italy) who agreed to participate, were surveyed using an online questionnaire on the EUSurvey platform. This consisted of the HLS-EU-Q47 to measure HL, followed by a socio-demographic section. The HLS-EU-Q47 classified HL into 4 levels: inadequate, problematic, sufficient and excellent; descriptive analysis was performed and the correlation with the sociodemographic data was examined using χ^2 test.

Results: 38 students participated (mean age 24 years, 60.5% female), 60% of whom are in an undergraduate degree program. 42% of the sample had a single SLD (26% dyslexia, 13% dysgraphia), while 58% of them have multiple SLDs. Overall, 42% of students were found to have a problematic HL level, 24% inadequate, only 24% sufficient and 11% excellent. No statistically significant association was found between) HL level and gender, number of SLDs, school attended at the time of SLD certification, and use of supports (all p-values>0.05).

Conclusions: The level of HL in students with SLDs appears to be consistent with data from the Italian population (58% inadequate or problematic) from the 2019-HLS19 Health Literacy Survey. This suggests that the presence of an SLD does not affect the level of HL and that it is likely that the university degree is able compensate for HL difficulties that could be related to the presence of an SLD. A larger sample is needed to see if it is confirmed that there is no association between the investigated variables.

Key messages:

- Despite the presence of SLDs, the HL of academic students follows the same trend compared to the general Italian population.
- The structural use of supportive measures by these students probably bridges the gap in access to and correct use of health information.

Abstract citation ID: ckae144.1719
Association between family empowerment and health literacy among parents with preschool children

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Background: For parents raising children, obtaining information and working together to solve problems in a family, including those related to the child's health, is vital (family empowerment). Communicative and critical health literacy is the ability to acquire and utilize information through communication and to critically analyze and use it to manage one's life. This may enhance family empowerment. We aimed to examine the association between family empowerment and health literacy among Japanese parents.

Methods: Data from parents of preschool children aged 3-6 years were collected through an online survey in September 2023. Family empowerment was measured using the Family Empowerment Scale for Parents (FES-P) with five sub-factors (26 items in total) using a 7-point Likert scale. Communicative and critical health literacy was measured using the Communicative and Critical Health Literacy (CCHL) scale, which includes five items on a 5-point Likert scale. Multivariable regression analysis was used to examine this association. Age, sex, education, income, employment status, number and age of children, and family members were used as covariates.

Results: Participants included 600 fathers and 600 mothers. The mean FES-P score was 116.5 (SD 23.0) and the mean CCHL score was 3.50 (SD 0.69). In the crude model, CCHL was statistically significantly associated with FES-P and all five sub-factors, such as 'relationship within the family'. After adjustment for all covariates, the association remained significant for FES-P (beta=0.28, $p < 0.001$) and sub-factors such as 'relationship with the community'. However, 'recognition and combined use of services' was not statistically significant (beta=0.05, $p = 0.078$). The income level showed a significant association with family empowerment and all sub-factors, independent of health literacy.

Conclusions: Health literacy was associated with family empowerment. Improving health literacy could contribute to strengthening family empowerment.

Key messages:

- Improving health literacy could contribute to strengthening family empowerment.
- Financial support may be needed to strengthen family empowerment since income level was associated with it.

Abstract citation ID: ckae144.1720
The Impact of Health Literacy on Diabetes Control

Dulce O

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Introdution: People with diabetes have a significant impact on treatment outcomes through their daily decisions. Therefore, health literacy (HL) is crucial for effectively managing the disease and maintaining overall health. This study aimed to explore the relationships between different dimensions of health literacy, self-care behaviors, and Diabetes Control (HbA1c).

Methods: HLwas assessed using the Health Literacy Questionnaire. 706 individuals with diabetes participated in the study, the majority of whom were male (60.2%), had more than 9 years of schooling (84.7%), and over half were employed (52.4%). To examine the relationship between dimensions of HLand HbA1c, multiple linear regression analysis was conducted.

Results: The study revealed a significant association between higher levels of HLand lower HbA1c levels. There is a statistically significant positive linear correlation between adherence to general nutrition and HLdimensions. In terms of physical activity, a positive correlation was also found with HLdimensions, and blood glucose monitoring showed a positive correlation with health literacy. Greater adherence to nutrition was linked to a decrease in HbA1c levels, while higher adherence to self-monitoring and medication was associated with an increase in HbA1c levels

Conclusions: This study emphasizes the importance of HLin managing diabetes. It underscores the impact of HLin diabetes compensation. The results reveal that higher levels of feeling understood and supported by healthcare professionals, having sufficient information to manage health, actively managing health, and appraising health information among people with diabetes lead to better adherence to blood glucose self-monitoring. Based on these findings, a crucial aspect of effectively managing diabetes will involve empowering individuals with the necessary skills for self-management of their condition, overall health, and treatment regimen.

Key messages:

- The present research reinforces the importance of health literacy for diabetes compensation and self care activies.
- One critical success factor in dealing with diabetes will be investing of health literacy of people with diabetes and health care providers responsiveness.

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The relationship between health literacy level and quality of life in bariatric surgery patients

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Background: Today, obesity is an important public health problem. In addition to the intervention programmes developed to prevent obesity, the necessity of medical and surgical treatment is increasing with the growing population. This study was conducted to determine the relationship between health literacy and quality of life in patients undergoing bariatric surgery.

Methods: This cross-sectional study was conducted with the participation of 136 patients aged 18 years and older who underwent bariatric surgery in a general surgery service between January 2021 and December 2023 and whose contact information was available. The survey participation rate was 75.1%. The questionnaire used for data collection consisted of questions about the sociodemographic information of the participants, The European Health Literacy Survey Questionnaire (HLS-EU-Q16) and the Postbariatric Surgery Quality of Life Scale items. Descriptive statistics, Mann Whitney U, Kruskal Wallis H test and Spearman correlation analysis were used to analyze the data. A value of $p < 0.05$ was considered statistically significant.

Results: The mean age of the patients who participated in the study was 38.2 ± 10.8 years; mean BMI was 42.3 ± 6.4 before surgery and 29.0 ± 6.2 after surgery. In the study, 44.1% of the patients who underwent bariatric surgery were found to have inadequate/

problematic health literacy level. Participants who had less than a bachelor's degree ($p = 0.009$) and low income ($p < 0.001$) had significantly lower health literacy levels. In addition, a moderate positive correlation was found between overall health literacy score and quality of life score ($r = 0.252$; $p = 0.003$).

Conclusions: In conclusion, this study shows that improved health literacy positively affects quality of life in patients undergoing bariatric surgery and that health literacy education should be emphasized in this context.

Key messages:

- The level of health literacy of bariatric surgery patients is a determining factor on quality of life, and therefore health literacy education is important, especially in identified risk groups.
- Increased health literacy can have positive results in terms of psychosocial and physical health and improve quality of life after bariatric surgery.

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Vaccination health literacy: cultural validation and pilot testing of the HLS19-VAC instrument

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Introduction: VaccinÐ°tion health literacy (VHL) is considered an extremely important aspect of health literacy. HLS19-VAC questionnaire is a 14-item 'subjective' perception-based instrument used for measuring VHL in the M-POHL Health Literacy Survey 2019-2021, which Serbia was not part of.

Aim: Translation and cultural validation of the HLS19-VAC questionnaire and using the validated Serbian version (HLS19-VAC_RS) for pilot study research.

Materials and methods: The English version of HLS19-VAC was translated using a systematic approach; three forward and one back-translations were synthesized and compared by an expert committee. Thereafter, cognitive interviews with 11 participants produced a version that was culturally validated by an expert panel. We conducted a cross-sectional pilot study using a HLS19-VAC_RS, on a convenient sample of the general population in Serbia. VHL was assessed by calculating the score for 4 out of 14 questions. Additional data were collected through a general questionnaire with 30 questions. Descriptive and inferential statistics were used.

Results: Cognitive interviews showed some problems in wording, and cultural adaptation resulted in minor refinements to eight out of 14 items. The instrument was pretested by 11 experts who adjusted it accordingly to produce culturally validated HLS19 -VAC_RS. Of 439 respondents in a pilot study, 15% had problematic VHL, while the levels of sufficient and excellent VHL were nearly the same (38.5% and 35.1%, respectively). There was difficulty in deciding whether to receive the flu vaccine (15.0%) and to find information about recommended vaccines (12.3%). There was a significant statistical difference in responses to VHL and monthly income and alcohol consumption. Most of the respondents contacted pharmacists as primary sources of information about medication (42.7%).

Conclusions: HLS19 -VAC_RS could be implemented in a local context as culturally appropriate. Further testing on a population level is needed.

Key messages:

- HLS19-VAC_RS Questionnaire is culturally appropriate for assessing vaccination health literacy in Serbia.
- Majority of respodents had sufficient or excellent vaccination health literacy.

Abstract citation ID: ckae144.1723
The use of digital technologies to promote sexual health in young adults: a narrative review

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Background: New technologies have the potential to play an important role in promoting sexual health, especially among young people, who are the biggest users and those at greatest risk of contracting Sexually Transmitted Infections (STI). The risk behavior assumed by young people today highlights this vulnerability in several contexts, such as individual, social, economic, and family. In this sense, it becomes relevant to approach sex education in schools using digital technologies.

Objectives: To identify the evidence in the literature on the use of digital technologies to promote the sexual health of young adults.

Methods: Narrative literature review. Three independent reviewers extracted, analyzed and synthesized the articles and results.

Results: Through the selection process, four studies were included. The articles show that the use of digital technologies (mobile phones/applications) leads to increased knowledge, improved attitudes and sexual behavior among young adults. The interventions studied in the studies were based on Short Message Service, electronic mail interventions and the MyPEEPS mobile application, with the following main focuses: Increased knowledge, attitudes, and behaviors of young adults. Considering the results of the studies, all interventions proved to be effective as facilitators of sexual health promotion.

Conclusions: The use of digital technologies allowed an increase in the promotion of the sexual health of the participants, since there was an increase in the level of knowledge with the use of digital technologies such as SMS, emails and mobile applications when comparing the experimental and control groups. The use of these digital technologies also allowed for a change in attitudes and behaviors, such as a significant increase in serological testing for STIs and an increase in health care seeking.

Key messages:

- The use of digital technology promotes the sexual health of young adults, so these strategies should be implemented by health professionals.
- The dissemination of these digital strategies will have an impact on Public Health, specifically regarding the sexual health of young adults.

DN. Poster display: Health promotion

Abstract citation ID: ckae144.1724
The need for health-promoting school attendance efforts in a Norwegian context

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Issue/problem: There has been an increase in mental health issues among young people in Norway in recent years, as in other European countries. This seems to result in more school anxiety and school absence across different school contexts. To meet this challenge, health promotion theory has been applied to develop practices facilitating mastering and empowerment in school.

Description of the problem: The objective of the project has been to develop health promoting principles and practices that support students to thrive and learn in school. Six primary schools, two lower secondary schools, one upper secondary school and five adult learning centres have participated in workshops and discussions for a period of a year. The questions that this project aims to answer are: 1) How can teachers facilitate health promotion in school? 2) How can health promoting practices support school attendance?

Results: The following principles for health promotion in schools were developed: 1) acknowledging by seeing the whole person, 2) trusting each individual, 3) respecting by creating tolerance for differences, 4) facilitating mastery and achievement, 5) facilitating participation by letting students develop ownership to solutions, 6) creating safety through clear and predictable frameworks, 7) facilitating motivation through engagement, 8) building relations by meeting students where they are, 9) promoting significant values.

Lessons: Based on the operationalisation of health promotion in this project, it is recommended that school employees promote and facilitate acknowledgement, trust, respect, mastery, participation, safety, motivation, relations, and values. The health promoting principles developed may easily be transferred to other educational contexts with similar challenges.

Key messages:

- It is important to create an acknowledging and respectful learning environment to facilitate health promotion in schools.
- To support school attendance, the environment needs to be supportive of student participation and empowerment.

Abstract citation ID: ckae144.1725
JOBS Program Germany for health promotion among the unemployed

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Aim: The unemployed suffer from poorer health than the employed, especially in terms of mental health. At the same time, health promotion reaches unemployed less than employed. The “JOBS Program” is an intervention for the unemployed to promote health. It has shown positive effects in the USA and Finland. The aim of this confirmatory study (Hollederer & Jahn, 2023; Jahn & Hollederer, 2024) was to investigate whether the JOBS Program produces similar effects in Germany.

Methods: A multicenter randomized controlled trial was applied to compare an intervention group (IVG) with a waiting control group (WCG) before (T0; $n = 94$), shortly after (T1; $n = 65$) the intervention and about 6 months after the intervention (T2; $n = 43$). Fourteen JOBS Program trainings have been conducted. Additionally, JOBS Program trainers were interviewed via voluntary computer-assisted web interviews (resulting in 28 interviews).

Results: JOBS Program Germany was beneficial. Following changes in the primary outcomes were identified from T0 to T1: Compared to the WCG, a multivariate regression estimated that the IVG had (1) a 0.34 scale point higher level of self-rated general health ($p = 0.025$; scale range: 1-5 points), (2) a 14.52 scale point higher level of mental well-being ($p = 0.004$), and (3) a 2.74 scale point higher level of life satisfaction ($p = 0.049$). About 6 months after the training had been conducted (T2), participants in the JOBS training showed better general health status (0.41-point; $p = 0.016$) compared to the WCG. Furthermore, 78.5% of the JOBS Program trainers were rather or very satisfied with the theoretical contents and 85.7% with the practical implementation. A central obstacle to the implementation was the COVID-19 pandemic.

Conclusions: This study provides evidence for the effectiveness of the JOBS Program with respect to the above outcomes, and for older and long-term unemployed, suggesting the benefit of regular implementation for different groups of unemployed in Germany.

Key messages:

- The results of the confirmatory study show positive effects of the JOBS Program on the general health status and unemployment-related mental burden among unemployed people in Germany.
- The introduction of the JOBS Program as a nationwide intervention in Germany could be an intervention approach for the unemployed to achieve better health.

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Promotion included in prevention (PIP)

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Issue/problem: Every year in Europe more than 20 million visits are carried out on workers. The opportunity to integrate health promotion into prevention is now under the attention of large companies, according to the American model known as Total Worker Health©.

Description of the problem: The main critical points of this strategy are the correct balance between promotion and prevention efforts and the extension of the projects to small companies. Furthermore, coordination is necessary between all the figures who promote health, particularly in the national health service.

Results: Occupational risk prevention activities, mandatory in all European countries, have been integrated with health promotion campaigns, addressing health topics chosen in a participatory way. The costs of designing the campaign, information material for employees and data processing are borne by the university, which covers the costs with research funds. No costs are borne by workers or companies. During their medical check-up in the workplace, workers are invited to fill in a questionnaire regarding the project topic, its outcome, and some related factors. Workers receive advice on how to improve their lifestyles and are referred to the National Health Service for any necessary tests or treatments. In the last 15 years, as many annual campaigns have been conducted. Projects have dealt with: Eating behavior disorders; Post-COVID syndrome;

Syncope and presyncope; Headache; Musculoskeletal disorders; Work engagement; Sleep health promotion; Aging; Violence at work; Work organization; Indoor air quality; Mediterranean Diet; Hand skin disorders; Teleworking; Work Ability. More than 30,000 workers from 38 companies participated.

Lessons: The participatory character of the projects, their simplicity and cost-effectiveness, the integration between occupational medicine and basic medicine demonstrate that PIP projects are economical, sustainable, and effective.

Key messages:

- Health promotion can be integrated into the prevention of occupational risks, without additional costs.
- The creation of a network of occupational physicians who are involved in PIP projects respects corporate and professional independence and improves the work culture, health, and safety of workers.

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Leveraging Social Marketing to Increase Vaccination Rates: A Systematic Review

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Introduction: Vaccinations are crucial for protecting individuals from preventable diseases, serving as a cornerstone of public health, safeguarding entire populations. Low vaccination rates can have devastating consequences, leading to outbreaks of preventable diseases. Social marketing has had an increasing role to play in public health. This systematic review seeks to investigate social marketing effectiveness in boosting vaccination adherence.

Methods: A literature search was conducted in PubMed, Scopus and Cochrane Library, using keywords "social marketing", 'campaigns", "vaccination", "vaccination uptake". The search was limited to English-language studies, including studies discussing social marketing campaigns and its impact on vaccination uptake. Prior to inclusion, the studies were evaluated for relevance and applicability to the research question. Included studies were analysed for methodology, sample size, data collection methods, and key findings.

Results: Of 198 articles identified, 26 studies met inclusion criteria. All studies reported demonstrable improvement in vaccination adherence and hence higher vaccination rates with the use of social marketing campaigns. Targeted messaging on social media allows communication to be tailored to specific demographics and address their unique concerns. Community engagement combats vaccine hesitancy by dismantling misinformation and rebuilding trust. Additionally, these campaigns leverage social influence and mobilise communities to cultivate pro-vaccine attitudes. By addressing personal choice, knowledge gaps, and hesitancy, social marketing paves the way for greater vaccination uptake.

Conclusions: Social marketing has been proven to be an effective tool in promoting vaccination adherence in public health. As vaccination remains a critical aspect of public health, the continued use of social marketing interventions is essential for improving vaccination rates and ultimately enhancing overall population health.

Key messages:

- Social marketing campaigns lead to higher vaccination rates across various populations.
- By addressing vaccine hesitancy, social marketing paves the way for increased vaccination uptake.

Abstract citation ID: ckae144.1728
Asking to thrive: structures supporting young men's behavioural health in Belfast, Northern Ireland

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Background: Men in Northern Ireland are three times more likely to die by suicide and psychiatric morbidity is significantly higher than for the United Kingdom overall, in part due to the Troubles, a 30-year conflict during which there were 34,000 shootings, 14,000 bombings, and 3,500 deaths. Prior studies suggest strong friendships and high collective efficacy in communities are protective against suicide and self-harm in adolescents and that inquiring about supportive people and structures directly-rather than through parental intermediaries-yields more accurate responses.

Methods: Semi-structured interviews were conducted with 30 adolescent males aged 16-19 from working-class communities across Belfast. Participants were recruited via trusted community partners and often had experiences with sectarianism and restorative justice. A deductive thematic analysis was conducted of interview transcripts, supplemented by responses to the Self-Harm Inventory and a modified Collective Efficacy Scale. Analyses were completed in NVivo and RStudio.

Results: In addition to male peer friendships in which they could share confidences, participants strongly endorsed the value of youth work organisations as keystones in supporting not only their own behavioural health through positive modelling but also the reduction of antisocial and sectarian behaviours in their communities. Participants named specific aspects of these structures they found most useful, including demonstrating "masculine success" though community engagement and family life, providing a safe venue for socialising, and delivering restorative justice programming.

Conclusions: Findings from this study suggest that youth work programming is an important component of both adolescent behavioural health promotion and community safety through the reduction of sectarian and other antisocial behaviours. Participants expressed dismay at the reduction of these services and endorsed both their personal and wider community importance.

Key messages:

- Youth workers may provide valuable positive modelling and behavioural health support to the young men.
- Youth work programmes may function both for behavioural health promotion and community violence reduction in Belfast, Northern Ireland.

Abstract citation ID: ckae144.1729
Knowledge and perspectives about medicinal cannabis in nurses and nursing students in Portugal

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Background: The opening up of legislation on medicinal cannabis in recent years has been a determining factor in the growth of this therapy. In Europe, regulation of medicinal use is a reality in several countries. Nurses can play a leading role in its administration, helping to ensure that it is carried out more effectively and assuming a fundamental role in the success of the therapy. It is therefore pertinent to analyze the knowledge of nurses and nursing students in Portugal about medicinal cannabis.

Methods: Quantitative descriptive study. A self-completion questionnaire was drawn up and made available on the google forms platform. It was face-validated, content-validated and approved by the Ethics Committee. The instrument included sociodemographic data, questions about cannabis knowledge and perspectives. Descriptive statistics were analyzed.

Results: Out of a total of 610 responses, 318 were nurses and 292 nursing students. Medical cannabis is considered legitimate by 79.6% of nurses and 84.3% of students. When asked about the functions of the endocannabinoid system, 71.7% of nurses and 79.5% of students said they had no knowledge. 88.7% of nurses and 79.5% of students disagreed that they had sufficient knowledge to advise users on the use of medicinal cannabis. Also, 38.4% believe that their patients use cannabis illegally to manage the symptoms of illnesses.

Conclusions: There is a need for continuing training for nurses and for the undergraduate and postgraduate nursing curricula to include this emerging area.

Key messages:

- The results show that this issue is a public health problem. It reinforces the need to formulate public policies in this area and to implement training for nurses and nursing students.
- These measures will be fundamental in preventing the use of illegal cannabis and promoting the safe use of medicinal cannabis.

Abstract citation ID: ckae144.1730
The relationship between sleep quality and emotional eating during the pandemic in Croatian adults

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Background: Social isolation during pandemics has adverse effects on sleep quality which in connection with COVID-19 distress facilitates the development of emotional eating patterns in various populations. This study aimed to evaluate the interconnection between sleep quality and emotional eating in the Croatian adult population during the COVID-19 pandemic.

Methods: This cross-sectional questionnaire study was conducted from February to June 2021 period. A validated, anonymous questionnaire that contained questions regarding demographic data, data on eating habits, and the Pittsburgh Sleep Quality Index (PSQI), was self-administered to a convenient sample of Croatian adults from central and northwestern Croatia.

Results: The study sample included 939 subjects with, a median age of 42 years (interquartile range 35-48), 35.4% males, and 64.6% females. At the PSQI 22.6% of subjects presented sleep disturbances. Sleep disturbances were more frequent among females ($p < 0.001$), and inhabitants of the Croatian capital Zagreb ($p = 0.001$). Subjects with sleep disturbances detected by PSQI during pandemics consumed a larger amount of food than usual ($p < 0.001$), consumed snacks more frequently ($p < 0.001$), and cooked more in their households ($p = 0.006$).

Conclusions: Poor sleep quality caused by the COVID-19 pandemic led to emotional eating patterns in the Croatian adult population. Health promotion programs directed toward healthy lifestyle choices need to be implemented to successfully tackle observed poor health indicators in the studied population.

Key messages:

- Following the COVID-19 pandemic the obvious deterioration of sleep quality and eating habits is seen in the Croatian general population.
- Comprehensive health promotion programs directed toward healthy lifestyle choices adoption are needed.

Abstract citation ID: ckae144.1731
Prevalence of Tooth Decay and Related Factors Among Primary School Children

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Introduction: Tooth decay is considered the fourth most important public health problem in the world. According to the latest studies, the prevalence of this disease is also important in school children. The interest of this work is to study the prevalence of dental caries and its influencing factors in primary school children in the city of Sousse (Tunisia) and to formulate recommendations for the prevention of this phenomenon.

Methods: It is a cross-sectional study conducted among pupils enrolled from 1st and 3rd grade of 3 primary schools in the city of Sousse in April 2022 through a questionnaire filled out by the pupils.

Results: A total of 376 participated in the study. Among them, 52,4% were male. The mean age was 7.4 ± 1.2 years. The prevalence of dental caries in our population was 43.9%. Many factors were associated with dental caries including pupils from public schools ($p = 0.000$), poor oral hygiene: [lack of tooth brushing ($p = 0.000$), tooth brushing only 1 time per day ($p = 0.000$), eating in the evening after brushing the teeth ($p = 0.000$), lack of changing the toothbrush ($p = 0.000$)] and unhealthy eating habits ($p \leq 0.05$). Consequently, dental caries was significantly higher among children with overweight body mass index (BMI) (90.9%; $p = 0.016$).

Conclusions: The organization of awareness and information days in schools, the integration of an education program on preventive measures against this phenomenon and the generalization of screening campaigns to detect this disease are necessary measures that should be carried out according to a well determined strategy.

Key messages:

- Dental caries prevalence among primary school children in Sousse is significant, highlighting the urgent need for preventive measures.
- Factors such as poor oral hygiene, unhealthy eating habits, and attending public schools contribute to the prevalence of dental caries.

Abstract citation ID: ckae144.1732
Development and preliminary psychometric properties of the Scale of Health Belief Model for Sleep

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Background: Sleep-related problems are a serious risk to physical and emotional health, academic success, and safety in adolescents. A measurement tool is needed to comprehensively evaluate adolescents' sleep and plan the steps necessary for behavioral change. This study aimed to develop a scale based on the Health Belief Model that can reliably and validly evaluate adolescent individuals' beliefs towards sleep.

Methods: This methodological study was conducted with 494 adolescents between September and October 2022 in Antalya, Turkey. Initially, 81 items about sleep were created according to the Health Belief Model. Validity was assessed as content and construct validity and reliability was assessed as internal consistency. Content validity was evaluated with ten expert views The scale was tested for construct validity with Exploratory Factor Analysis (EFA), after which the scale's reliability was evaluated for item-total correlations using Pearson's correlation analysis and for internal consistency with Cronbach's Alpha.

Results: In the first EFA, sixteen factors with eigenvalues greater than 1 explained 63.80% of the total variance. Items with factor loadings of less than .30 and those that appeared in more than one factor with differences of less than %10 were removed from the scale one by one and the analysis was repeated. In the last EFA of the 46-item scale, six factors were found with an eigenvalue greater than 1 that explained 57.7 % of the total variance. The scale's item-total correlations ranged between .26 - .79. Cronbach's coefficient alpha of subscales was found .92 for perceived susceptibility, .90 for perceived severity, .90 for perceived benefits, .81 for self-efficacy, .79 for motivation and .69 for perceived barriers.

Conclusions: The validity and reliability properties of the scale of Health Belief Model for sleep have been found good levels in Adolescents. Its intercultural adaptation for use with adolescents in other countries is recommended.

Key messages:

- The newly developed the scale of Health Belief Model for sleep was found to be valid and reliable.
- It can be used to assess adolescents' beliefs about sleep.

Abstract citation ID: ckae144.1733
Does mindfulness program reduce stress and enhance self-kindness in schools? Healthy Learning Mind

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Introduction: There is a scarcity of research with high quality methods on the effectiveness of mindfulness-based interventions (MBIs) on adolescents' mental well-being. This study investigates the MBI effects on adolescents' stress and self-kindness with an extensive cluster RCT design, and a role of self-kindness as a mediator for the association between the MBI and stress. Additionally, the study explores how age, gender, and an independent mindfulness practice moderate the effects on the outcomes.

Methods: Participants (Finnish students, aged 12-15 years) were randomized to a MBI group ($N = 1646$), an active relaxation control group ($N = 1488$), and an inactive control group ($N = 385$). The outcomes were measured at the baseline (T0), at 9-week post-intervention (T9), and at 26-weeks follow-up (T26).

Results: Overall, the MBI was more effective in stress reduction when compared to the active control at T9 ($\beta = -0.04$, $p < 0.01$, $d = -0.11$) and T26 ($\beta = -0.04$, $p = 0.02$, $d = -0.11$). Furthermore, students in the MBI group who carried out their regular mindfulness home practice showed greater decrease of stress. There were no MBI effects on self-kindness, nor did a change of self-kindness mediate the effects of MBI on stress.

Discussion: These findings demonstrate that the 9-week MBI is slightly more effective to reduce stress relative to relaxation training.

Key messages:

- The result highlight the potential of MBI in increasing the stress management among students in school context.
- To ensure the effectiveness of MBIs in school context we need to teach these skills to teacher students already during their basic education in educational institutions and universities.

Abstract citation ID: ckae144.1734
The French experiential knowledge resource center: strengthening and extending its scope of action

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Issue: The national committee for experiential knowledge in health promotion (EKHP) aims to promote EKHP and improve professional practices. Since 2017, the committee has created methods and toolkits formalizing the capitalization of EKHP. The levers to put the method into practice are in place, now comes the time to find the best means to foster promotion and appropriation of EKHP works.

Description of the problem: The national EKHP resource center has been launched in May 2022, online: www.capitalisationsante.fr. It acts as a database where HP practitioners can read, download and upload EKHP capitalization works (~12-page documents detailing one HP intervention each) and cross-analyses reports. It is driven by three main objectives: 1/ promoting and disseminating HP practitioners' experiential knowledge, 2/ building a community of practice to improve capitalization practices and 3/ making a useful and transferable data available to practitioners.

Results: The now two-year-old website has been visited by 32 000+ individuals. More than 120 works, 12 cross-analyses are published. They were submitted by trained HP practitioners and reviewed by an editorial board before publication. The national EKHP resource center offers insight on how HP interventions work from practitioners themselves who share knowledge on their implementation. Compared to best-practices portals, it offers an innovative bottom-up approach to knowledge transfer. The community of practice (CoP) now supports a network of 200+ trained practitioners. This CoP aims to improve knowledge management and ensure the quality of the works produced. Surveys and feedback show that both building up and accessing EKHP meet a high level of interest.

Lessons: The innovative bottom-up approach and the focus on knowledge management can serve as a model for other settings/ countries. In 2024, levers of appropriation will be investigated and collaboration with other HP resource centers will be better identified.

Key messages:

- The now two-year-old national NEKHPRC enhances EK's part in the HP field by making otherwise unknown data available to the French-speaking HP community.
- Building of a strong community of practice ensures the high quality of the bottom-up approach to the uploading of the works.

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Living with Dementia: exploring the challenges and needs of informal Dementia caregivers in Portugal

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Background: Dementia profoundly impacts not only those diagnosed but also their informal caregivers. The Nova Center for Global Health at NOVA-IMS, in collaboration with the Alzheimer Portugal Association, embarked on a comprehensive study to explore the various aspects of daily life that affect informal caregivers of people with dementia in Portugal. Understanding these impacts is important for developing targeted interventions that address the caregivers' needs effectively, particularly given the current lack of research on informal dementia caregivers.

Methods: The study utilized a crafted survey developed through initial scripting on key topics identified by informal caregivers and validated by experts on dementia. This phase was followed by a series of in-depth interviews with professionals in neurology, psychology, and social work, as well as with the caregivers themselves. The final survey was distributed among members of the Alzheimer Portugal Association and other volunteers, resulting in 305 valid responses.

Results: Preliminary findings reveal significant emotional, physical, and financial challenges faced by caregivers, underlining the diverse needs across 14 key areas of their lives. The study highlights specific areas where support is lacking, providing a grounded basis for developing more effective support mechanisms.

Conclusions: The 'Living with Dementia' project underscores the complex reality faced by informal caregivers. It calls for innovative, practical solutions that can alleviate the burden on these caregivers and improve their quality of life. By addressing the specific needs identified through this research, policy-makers and support organizations can better tailor their interventions to help those at the front lines of caregiving in dementia.

Key messages:

- Informal caregivers of people with dementia face challenges that necessitate a comprehensive understanding to tailor effective support systems.
- Interventions are needed that address the emotional, physical, and financial hardships caregivers face, improving their overall well-being and capacity to care.

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Predictors for psychosocial consequences of screening for liver diseases in Germany: a LASSO approach

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Background: Medical screening is extensively used across various disciplines for early disease detection and prevention of severe progression aiming to reduce disease-specific burden, improve quality of life and promote health. However, screening is debated due to unclear evidence of its overall benefits from a public health perspective. Screening is associated with improved health behavior and cost-effectiveness. However, studies identified adverse effects of screening like psychosocial burden. Most results originate from cancer screening and it is unclear whether they are transferable to other contexts. Within a research program, a systematic screening procedure to detect patients with liver cirrhosis at early stage in an asymptomatic general population was evaluated. In this study, we aimed to identify patient characteristics that predict and explain variance in psychosocial outcomes of screened patients.

Methods: This study analyzed data from 523 participants who underwent a systematic liver disease screening in Germany from Jan 2018 to Feb 2021. We used bootstrapped LASSO regression with 10-fold validation to evaluate the influence of various predictors on the outcomes measured by the Psychological Consequences of Screening Questionnaire (PCQ). The constructs measured by the PCQ are social, physical and emotional dysfunction associated with screening.

Results: We identified lower severity of comorbidities, higher subjective social status, stronger social support, older age, better critical health communication skills and higher health literacy as relevant predictors of lower psychosocial dysfunction, indicating their protective role in preventing psychosocial burden of screening.

Conclusions: From a public health perspective, medical screening offers should take into account patients' individual context regarding their subjective social status, health impairments, personal social networks and health literacy skills to reduce post-screening psychosocial burden.

Key messages:

- Social support, age, health literacy and higher subjective social status were positively associated with lower psychosocial consequences of liver screening.
- The findings indicate that liver screening should be carried out, taking into account the individual's situation and resources available.

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How can healthcare professionals assist in improving mothers' health?

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Background: Mothers' health is crucial as it significantly impacts the overall health of their children and families. The first year of motherhood can be especially difficult and can lead to a considerable decline in mental health and well-being. However, studies have shown that these challenges persist throughout early childhood. This study examined the association between mothers' self-compassion, social support, and self-care behaviors and their physical and mental well-being.

Methods: In August 2023, a survey was conducted among 521 Israeli mothers (437 Jewish and 84 Arab mothers) of children aged three and under. Linear regression models were used to assess the factors that predict the mothers' physical and mental health. These models explained 11% of the variance in the mothers' physical health and 39% of the variance in their mental health.

Results: Respondents' ages ranged from 19 to 48, with a mean age of 31.5 years. Reported physical health was relatively high (n = 442, M = 78.36, SD = 21 on a scale of 0-100). However, the reported mental health was lower (n = 401, M = 65.88, SD = 20.28 on a scale of 0-100). Reported Physical health was found to be higher for Jewish mothers, younger mothers, and mothers with higher income levels. Further, higher social support and higher self-compassion levels were associated with better perceived physical health (Adj R2=0.11, $P < 0.001$). Mental health was higher for Jewish mothers, younger mothers, and full-time employed mothers. Further, higher social support, self-compassion, and reported self-care were associated with better perceived mental health (Adj R2=0.39, $P < 0.001$).

Conclusions: Health practitioners who work with mothers of young children should take a proactive approach to helping them establish a nurturing environment, practice self-compassion, and engage in self-care activities.

Key messages:

- Encouraging self-compassion and self-care in postpartum mothers is crucial, as it is essential to prioritize the mother's health alongside her baby.
- Low socioeconomic background and Ethnicity are risk factors for lower physical and mental health after childbirth. Reducing health disparities and targeting these vulnerable populations is crucial.

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Barriers and facilitators to remote healthcare services use: perspectives of women and providers

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Background: The remote health services (RHS) proliferation raises concerns regarding relatively low use among minorities. Arab women in Israel belong to a minority that experiences health disparities, stigmatization, social and economic marginalization. This study aimed to identify barriers and facilitating means to RHS use relevant to Arab women in Israel from the perspective of women, primary care physicians (PCPs), and nurses.

Methods: Semi-structured interviews were conducted with 25 Arab women, 18 PCPs, and 4 nurses from different parts in Israel between December 2023-March 2024. We used a positive deviance approach by interviewing 14 women who succeeded in using RHS and 11 who did not. Interviews were audiotaped, transcribed, and thematically analyzed using Atlas qualitative analysis software.

Findings: The data distilled three main barriers to RHS use: sociocultural- importance of close relations with PCPs, privacy concerns of revealing the body or conversing with unfamiliar physicians, strict supervision by the family (Bedouin society); logistical-limited internet access and infrastructure, personal- unawareness to RHS, digital literacy, normative conceptions of limited quality of care and believing that only some health conditions are suitable for RHS. Facilitating means to RHS use: gender roles-women's role as family health caretakers, mothers maintaining work-family balance and younger women generation feeling responsible for the older generation RHS adoption, accessibility- wider access to care due to limited transportation.

Conclusions: It is important to identify facilitating conditions (e.g., training opportunities, social, technological support), cultured elements (gender roles, limited mobility), and trust to adopting RHS by minority populations. The study provide data for developing requirements to ensure more equitable access to RHS to Arab women including addressing privacy concerns, guidelines for RHS-related information dissemination, and for RHS providers.

Key messages:

- The findings help develop approaches and means to improve RHS use for Arab women from diverse backgrounds by identifying barriers associated with access, culture, and normative conceptions.
- Developing RHS systems into routine care must ensure equitable use across social groups and address economic, logistical, and sociocultural barriers and guidelines for RHS information dissemination.

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Parent perspectives on sports betting and its effects on children

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Background: Gambling-related harm is a global challenge. Sports betting is a rapidly growing form of gambling, facilitated by access to online wagering platforms and increased advertising. Most public health initiatives target 'problem' gamblers, ignoring socio-cultural influences. Within this context, we examine what parents think about sports betting, the potential impacts on their children, and whether they participate in sports betting around their children.

Methods: Using a survey of 3,481 Australian adult sports fans with dependent children, we analyse parental attitudes to sports betting and their concerns about possible effects on children. ANOVA and regression methods are used to test for differences in attitudes to sports betting between parents who are gamblers (sports and non-sports) and non-gamblers.

Results: Compared to non-gambling parents, sports-betting parents are much more permissive (by up to 0.9 standard deviations) of sports betting around and by children, and less concerned (by up to 0.6 standard deviations) about any harmful effects of sports betting on children. Sports betting parents place less importance on discussing the risks of sports betting with their children, and the more often a parent bets on sports, the less confident they are about having these discussions. Parents who bet on sports are 5.8 percentage points less likely than non-gambling parents to have had such conversations.

Conclusions: The strong influence of parent modelling and normalisation, combined with policy initiatives that recommend parents discuss potential sports betting risks with their children, implies that having a better understanding of attitudes will facilitate improved educational and harm minimisation policy initiatives. The findings of our study are important for public health policy and should inform interventions aimed at gambling harm reduction. Targeting sports betting parents with better tailored educational campaigns is warranted.

Key messages:

- Children of parents who bet on sports are less likely to receive messages about the risks of sports betting, in addition to being exposed to role modelling that reinforces sports betting.
- Compared to non-gambling parents, those who bet on sports have more permissive attitudes towards sports betting, suggesting targeted messaging and interventions are warranted.

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Light Physical Activity Throughout the Day and Physical Function in Older Adults

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Background: Light physical activity (LPA) plays a crucial role in preventing muscle loss and disability in older adults. Since LPA makes up a significant portion of daily activity, understanding how the timing of LPA influences physical function is important for designing effective health interventions.

Methods: This cross-sectional study investigated the association between the timing of LPA and physical function among 200 older adults (mean age 76.3, 55.5% female) attending the geriatric outpatient clinic at National Taiwan University Hospital. LPA was objectively measured using wrist-worn accelerometers for seven consecutive days. Principal component analysis (PCA) was used to identify distinct patterns of LPA timing. Participants underwent assessments of grip strength, basic mobility, walking speed, and lower limb muscle strength. Multivariable linear regression models were adjusted for potential confounders, including gender, age, moderate-to-vigorous physical activity (MVPA), and accelerometer wear time.

Results: Our findings revealed that higher levels of LPA during the morning to noon period were positively associated with better performance across all four physical function tests. Moreover, after controlling for relevant confounders, increased LPA in the late afternoon and evening was positively associated with enhanced basic mobility, walking speed, and lower limb muscle strength.

Conclusions: This study highlights the importance of considering LPA timing when promoting physical function in older adults, independent of MVPA participation. Encouraging LPA, particularly during the morning to noon period, could be a valuable strategy for maintaining and improving physical capabilities in this population. These findings provide actionable insights for clinicians and health professionals when tailoring physical activity recommendations for older adults within geriatric care settings.

Key messages:

- Morning LPA boosts physical function in seniors, enhancing grip, mobility, walking speed, and muscle strength.
- Timing of light activity crucial for older adults' physical health, with morning to noon activity showing most benefits.

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Lesson from the Covid-19 pandemic: do fear and anxiety lower vaccination hesitancy?

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Background: The prevalence of vaccination hesitancy has become one of the top ten global health problems. During the Covid-19 pandemic several studies reported negative correlation of vaccination hesitancy with fear of Covid-19 and anxiety. Therefore, the study aimed to explore how fear and anxiety can impact one's intent to get vaccinated.

Methods: In 2021, data from 5999 post-secondary Slovenian students was gathered using a cross-sectional online survey. Binary logistic regression and the Sprearman correlation coefficient was used to explore the relation between Fear of Covid-19 Scale (FCOV), Generalized Anxiety Disorder Questionnaire (ANX) and a question regarding participants' intentions to get vaccinated.

Results: Results showed that only 39.7% of students expressed intention to get vaccinated as soon as possible and 29.2% exhibited no intentions to do so. Logistic regression indicated that only FCOV had a mild and significant ($p < 0.001$) impact on students' intentions to get vaccinated, whereas ANX was found to have only a weak significant ($p < 0.01$) effect on students' intentions to do so. Similarly, ANOVA test showed significant differences with small to medium effect of FCOV on intentions to get vaccinated, but no significant differences were found for ANX.

Conclusions: A low percentage of Slovenian tertiary students expressed intentions to get vaccinated as soon as possible for Covid-19, with only fear having been found to have a small to mild effect on students' intentions to do so. Anxiety, on the other hand, was found to have a small positively predictive effect on vaccination hesitancy, which could reflect affective forecasting error (i. e. believing that the negative consequences of getting vaccinated would be greater than they really are). Therefore, when considering strategies to address the increasing problem of vaccination hesitancy, one must keep in mind that the loss-framed messages might not be sufficient to prompt people to get vaccinated.

Key messages:

- Fear of Covid-19 had only a small to medium significant positive effect on students' expressed intentions to get vaccinated as soon as possible.
- The loss-framed messages might not be sufficient to prompt people to get vaccinated.

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A repositioning nudge to encourage healthier snack purchases at a supermarket in a deprived area

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Background: Diet quality positively correlates with socio-economic position (SEP). While nudges are often proposed as promising policy tools for promoting health behavior among lower SEP groups, research addressing their impact within lower SEP groups is limited. This study aimed to 1) examine the efficacy of a checkout repositioning nudge in a supermarket in a deprived area in encouraging purchases of healthier snacks, and 2) describe customers' preferences and needs regarding grocery shopping and healthy eating.

Methods: Daily sales data were collected over four-week control and intervention periods. During the intervention, unhealthy snacks at the checkout were replaced by healthier snacks. Additionally, questionnaires were administered among customers ($N = 90$).

Results: The intervention led to a significant increase in daily sales of healthier snacks ($M = 3.14$, $SD = 2.45$) compared to the control period ($M = 0.54$, $SD = 0.96$), $t(27) = 5.62$, $p < .001$. Despite a statistically significant nudge-effect, the absolute daily sales of healthier snacks remains extremely low. No difference in daily sales of unhealthy snacks was observed between both periods. Questionnaire data showed that customers report to seldomly purchase snacks at the checkout, find it important to eat healthily, think well about what they buy in a supermarket, and long for a healthier and more affordable food offer within the supermarket.

Conclusions: Interventions that are effective among higher SEP groups, such as repositioning nudges, may not be suitable for the circumstances and needs of lower SEP groups. To combat existing health inequalities, interventions must be tailored to lower SEP groups. More system-level interventions that target the healthiness and affordability of the offer may be needed.

Key messages:

- Although nudging is often proposed as a promising policy approach for improving health behavior among lower SEP groups, repositioning nudges may not suit their circumstances and needs.

- To combat health inequalities, interventions must be tailored to lower SEP groups and integrated with system-level policies (e.g., targeting the healthiness and price of the offer in supermarkets).

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Validating weight optimization's Impact on participants via Social Impact Bonds

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Background: To promote health for everyone, even the health-unconcerned, Okayama City has established the Social Impact Bond (SIB), which funds and executes social programs for defined outcomes, with third-party assessment. This study examined the normalization of participants' physiques three years later to verify the effectiveness of SIB.

Methods: We conducted a study of a quasi-experimental design, non-randomized controlled trial. A total of 8,251 eligible people applied for the program. Of these, 1,599 were enrolled in the National Health Insurance System (NIH), and 731 of them were included in the intervention group in 2018. Among 705 non-participating matched members and randomly selected, 170 were used as the control group. Whether or not the standard physique in the endpoint (EP) FY2021, was used as the dependent variable, and the participation as the independent variable. Age, gender, and physique at baseline (BL) were used as covariates for logistic regression analysis.

Results: A total of 532 patients underwent health checkups for both BL and EP, and the follow-up rate was 60.5% in the intervention group and 52.9% in the control group. Examination of between-group differences in BL revealed that the mean age was 66.7 years significantly higher in the males' intervention group and 60.6 years in the control group ($p < 0.01$). The crude odds ratio (OR) of maintaining or achieving standard BMI in the participating group was 0.90, and the adjusted OR was 1.23 and 1.31 after propensity score matching, both were not significant. On the other hand, when restricted to people with thinness, the pre-adjusted OR was 5.00 and the adjusted OR was 12.43.

Conclusions: Participation in the project contributed about 20% to 30% to weight optimization, and it could not be denied that it was brought about by chance. However, when limited to thin physiques, project participation was about twelve times higher, and the probability of having an appropriate physique was increased.

Key messages:

- SIB might affect the BMI optimization for older people in improving thinness.
- Efforts will be needed to encourage participation among younger age groups.

Abstract citation ID: ckae144.1744
Restoring trust in vaccination through collective engagement with key populations in Eastern Europe

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Issue/problem: COVID-19 vaccination rates remained below 50% in Moldova, North Macedonia, and Serbia, especially among vulnerable populations like pregnant women and those with chronic diseases. This was strengthened by a lack of targeted communication and training for healthcare workers, and COVID-19 fatigue. Strategies to increase vaccine demand and confidence are a global priority, especially among vulnerable populations.

Description of the solution: From May 2022 to April 2024, the USAID MOMENTUM Routine Immunization Transformation and Equity project employed behavior integration to design a social and behavior change strategy, centering on vaccination as a part of a healthy lifestyle. It was implemented through continuing medical education (CME) and community engagement (CE) workshops with vulnerable populations, supplemented by cross-country learning exchanges. The outcomes provide a framework for public health initiatives aimed at boosting vaccine uptake through innovative, behavior-based methods.

Results: 1,618 healthcare professionals, able to reach 2.5 to 4.8 million patients, received training in immunization, COVID-19 vaccines, and quality health service, and 99% indicated confidence in applying the knowledge. 265 CE workshops, engaging 4,079 patients, increased awareness and addressed concerns related to vaccination. Of 3,223 patients who were followed up, 47% reported setting an appointment with their doctor regarding vaccination, 27% discussed vaccination with their partners, and 7% proceeded to receive the COVID-19 vaccine.

Lessons: Behavior Integration helped address key barriers to vaccination and informed the design of strategies (i.e. situating COVID-19 vaccination as part of a healthy lifestyle). Establishing trust with healthcare providers and patients through collective engagement improved health behaviors. Focusing on health as a wider priority helped re-establish the significance of vaccination as part of a healthy lifestyle.

Key messages:

- Behavior science and behavior integration helped identify and address barriers, as well as design tailored interventions to improve vaccination demand and confidence.
- Collective engagement, focused on integration of COVID-19 vaccination as part of a healthy lifestyle, achieved results through addressing vaccine hesitance from both sides of the equation.

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Health and well-being during the pandemic: views and support needs of older adults who lived alone

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Background: Physical and social distancing measures during the COVID-19 pandemic had the potential to jeopardize health and well-being of older adults. Especially older adults who lived alone faced challenges due to restrictive COVID-19 measures. In this study, we explored views and support needs to maintain health and well-being of older adults living in a single household during the COVID-19 pandemic.

Methods: We employed an interpretative phenomenological analysis, including twenty semi-structured interviews with older adults ($\geq$65 years old) living in single households during the pandemic. Interviews were conducted between June and September 2021, audio-recorded and lasted approximately one hour. Data analysis was guided by the heuristic framework of Smith et al. Trustworthiness of the study was enhanced through bracketing and multiple interdisciplinary moments of revision of the data analysis.

Results: The views and support needs of participants to maintain health and well-being during the pandemic were captured in three overarching themes: 'A lingering search for connectedness', 'Dealing with a discouraging situation to stay well', and 'Leaning on lessons learned during life'. Important resources that enabled participants to maintain health and well-being were: experiences of social connectedness, acceptance of the situation, and (re)gaining a sense of control. Participants described how they leaned on lessons learned from life-experiences when facing situations that challenged their health and well-being.

Conclusions: Our study points out that views and support needs of older adults to maintain health and well-being during the pandemic were diverse and rooted in various coping mechanisms. During future situations similar to the pandemic, public health policies should include strategies to promote social connectedness among older adults who live alone, to prevent adverse health outcomes.

Key messages:

- Experiences of social connectedness, acceptance, and (re)gaining a sense of control were coping mechanisms that enabled older adults to maintain health and well-being during the COVID-19 pandemic.
- Public health policies should include strategies to promote social connectedness among older adults who live alone, to prevent adverse health outcomes during future pandemics.

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Evaluation of university food environment and healthy space policy implementation at university

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Issue/problem: Unhealthy diets, along with factors like tobacco, alcohol, and inactivity, contribute significantly to non-communicable diseases (NCDs). Prevention strategies should prioritize reducing exposure to these risk factors. It's also crucial to consider environmental well-being alongside promoting health.

Description of the problem: During 2023/2024, university cafeterias (UC) were evaluated for healthy eating standards compliance, resulting in a noticeable presence of unhealthy foods together with plastic use, alcohol and tobacco consumption. This led to the development of an accreditation program to boost UC as healthy spaces.

Results: The developed program includes 5 mandatory standards and 42 recommendations. Priority objectives are offering healthy food options like fruit, avoiding alcohol and sugary drink ads, banning tobacco, promoting physical activity, and reducing waste for example by encouraging unpackaged water consumption. Our policy emphasizes evaluation and monitoring, so accreditation is valid only for two years. Our goal is to establish UC as sustainable, healthy spaces. To encourage compliance, we offer institutional financial support and accreditation seals to UC, showcasing their commitment to community health. Implementation begins in the 2024/2025 academic year, with an initial evaluation scheduled at that time.

Lessons: Monitoring UC food offerings is crucial for ensuring healthier options. Cafeterias play a key role in promoting healthy habits. Creating environments with healthier options can mitigate non-communicable disease risk factors presence.

Key messages:

- University cafeterias are pivotal in fostering a healthy lifestyle.
- Prioritizing policies to address non-communicable diseases is crucial. Clear programs are essential for sustained effectiveness.

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Health promotion at local level in Portugal: is childhood obesity a concern in municipal programs?

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Health promotion programs targeted at distinct health outcomes such as childhood obesity, at local level are increasingly used worldwide. There is a need to better understand the role of local governments (municipalities) as key public health promoters namely in the prevention of obesity in children. This study aims to provide some input regarding this issue in Portugal. In order to achieve this goal, health enhancing programs promoted by Portuguese municipalities in which children could participate were identified. The search of such programs was limited to the municipalities that were part of the Portuguese Network of Healthy Municipalities in 2021 ($N = 57$). A subsequent document analysis was conducted to describe how municipalities conceptualized children's health by retrieving information on which topics the programs were focused on, or acted upon, and identify which socio-ecological model levels of health determinants were addressed (or not) by each program. The 77 identified programs were promoted by 30 municipalities and only 11 programs addressed childhood obesity. Most programs focused on the individual health determinants ($N = 27$) and provided limited information overall, which hindered a more in-depth analysis. The findings suggest that Portuguese municipalities seem to disregard their potential as public health promoters. Childhood obesity is a major public health concern at national level, as reflected in the National Health Plans, but not perceived as such locally. Municipalities are the closest government entities to the population, and it is their responsibility to ensure the population's quality of life, by addressing the social and environmental determinants of health. Hence, municipalities should instill health concerns in all their actions/interventions, taking in consideration the most recent evidence, specifically in the case of childhood obesity.

Key messages:

- This study findings suggest that, despite childhood obesity being a major public health concern at national level, as reflected in the National Health Plans, it is not perceived as such locally.

- There is a need to better understand the role of municipalities as key public health promoters considering they are responsible to intervene on the social and environmental determinants of health.

Abstract citation ID: ckae144.1748
Identity in the context of physical activity and smoking: A scoping review among adults aged 45+

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Background: Identity (i.e., self-perceptions of oneself) plays an important role in health behaviors such as physical activity (PA) and smoking. This review offers a comprehensive synthesis and comparison of how PA- and smoking-related identity is associated with PA and smoking behavior in adults aged 45+. It further synthesizes and compares identity terminology and measurement tools used to capture identity concerning smoking cessation and PA among adults aged 45+. Where applicable, the role of personal, PA-, and smoking-related characteristics were considered.

Methods: A thorough search across 11 databases, updated in May 2023, yielded 5801 unique publications. Ensuing careful screening procedures, 45 peer-reviewed empirical studies were systematically reviewed. Experts in the field contributed to validate and structure the narrative.

Results: The review reveals a complex, enduring connection between identity and behavior in both PA and smoking domains, encompassing processes like identity formation, maintenance, change, and loss. In essence, identities linked to PA and abstaining from smoking emerged as pivotal for promoting active lifestyles and successful smoking cessation. Many parallels but also distinctions emerged within this association, alongside variations in the terminology and measurement tools pertaining to identity. Factors such as gender, age, and behavioral history emerged as influential in shaping identities related to smoking and PA.

Conclusions: Despite variances, findings suggest that the relationship between identity and behavior, including associated processes, may not fundamentally differ between health-promoting and health-compromising behaviors. There is however need for more unified identity definitions and measurement tools. We propose avenues for future research, including exploring causality between identity and behavior to facilitate the development of identity-related smoking cessation and PA-promotion interventions.

Key messages:
- Identities associated with physical activity and refraining from smoking are associated with a physically active lifestyle and successful smoking cessation.
- Despite differences, the relationship between identity and behavior may not fundamentally vary between health-promoting and health-compromising behaviors.

Abstract citation ID: ckae144.1749
Exploring the policy context of Whole School in eight EU countries: the Schools4Health project

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Background: Moving from the recognition of WHO principles of health promoting school (HPS) to concrete practices is challenging. The Schools4Health project is an EU initiative with the aim to introduce, strengthen, and sustain the adoption of a participatory whole-school approach to health and wellbeing. The aim of this work is to present an update about the policy environment around HPS approaches in eight EU countries.

Methods: Between September-November 2023, Schools4Health partners from Spain, Belgium, Hungary, Greece, Latvia, the Netherlands, Romania and Slovenia carried out a preliminary scoping exercise to investigate the policy conditions which can influence the national uptake of HPS approaches. A three-step methodology was developed: a. identification of core stakeholders b. Rapid Situation Analysis survey and c. national roundtable meetings, to assess stakeholders' awareness of and engagement in health promotion programs in schools.

Results: In total, $n = 192$ responses from stakeholders from health, education, social and agricultural sectors were selected. Most experts were aware or partly aware of the HPS concept. While there is consensus that health promotion at school is essential, there is a lack of, or weak implementation of legislation and voluntary initiatives due to barriers such as limited time and financial resources, teachers burnout and insufficient interaction between education and health governmental bodies.

Conclusions: Effective advocacy can highlight the potential of HPS in addressing the urgent challenges related to wellbeing in youth, and the associated decline in educational performance across Europe. Policymakers, public authorities and the broader community should also be engaged.

Key messages:
- Creating HPSs should not solely fall on schools and teaching staff.
- Policymakers, public authorities and the broader community around schools have responsibility to ensure that policy measures and instruments embed the key considerations for HPS approach.

Abstract citation ID: ckae144.1750
Determinants and strategies for successful scale-up of health interventions in the Netherlands

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Background: Although many evidence-based health interventions are proven effective, the process of scaling up is often complex and challenging. Yet, some interventions have managed to achieve successful scale-up. This provides a window of opportunity to learn from those experiences to inform future scale up processes.

Objectives: This mixed-methods study aimed to assess determinants and scale-up strategies contributing to successful scale-up of health promotion interventions in the Netherlands.

Methods: Semi-structured interviews were conducted with intervention owners (i.e. the individual or team taking the responsible for several aspects related to implementation and scale-up) ($N = 25$) of successfully scaled interventions (implemented across various health behaviours and different settings), and other relevant stakeholders

(N = 10) involved in scaling up. Additionally, a survey was distributed among interventions (N = 306) registered in a national intervention database to assess scale-up experiences.

Results: Scale-up is often the result of a combination of determinants, such as persistent commitment of intervention owners and stakeholders, new funding opportunities, and accreditation by institutions. Several scale-up strategies were identified related to funding (e.g. reducing costs by setting up collaborations), organizational processes (e.g. infrastructure to support implementation), monitoring and evaluation, and dissemination and advocacy.

Conclusions: Achieving successful scale-up does not happen automatically and continuous effort of the intervention owner is crucial. There is no such thing as one successful scaling strategy which succeeds across all contexts. The intervention owner typically takes the lead in diverse scaling pathways, where sufficient time, funding, the right moment and added value form the critical ingredients for success. Funding: This study was funded by ZonMw.

Key messages:

- Crucial elements of achieving scale-up are the continuous effort of the intervention owner, sufficient time, funding, the right moment and added value of the intervention.
- Funding should not me allocated for new initiatives but also for continuous development of interventions, ongoing evaluation and covering overhead costs.

Abstract citation ID: ckae144.1751

Engaging practitioners in developing a guide for citizen participation in community health promotion

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Background: Community health promotion aims to improve the living conditions in municipalities, cities, or regions to support health maintenance or promotion. Participation is a fundamental element in health promotion, as it enables community members to engage in decision-making, program development, and tailored health initiatives. This project focused on crafting a practical guide for citizen participation in community health promotion, involving experts and future users.

Methods: We conducted a literature review to identify existing guidelines and materials pertinent to community health promotion, with a focus on practical guidance for municipal practitioners. To delve deeper into the topic, we conducted interviews with 6 experts in the field of participation and community health promotion as well as with 6 practitioners working in “healthy municipalities” in Lower Austria. The guide was developed collaboratively, with two workshops being held to gather input on the draft concept of the guide and to prioritize topics. Moreover, experts and practitioners were involved to provide feedback on the drafted guidance document.

Results: Discrepancies emerged between theoretical concepts and real-life implementation of community participation. While the literature delineates up to 12 participation levels, practitioners identified three: contributing ideas, advising and co-deciding, and actively participating in planning and implementation. Informing the target group was conceptualized as a preliminary stage and basic requirement for citizen participation. Above all, practitioners sought low-key suggestions and short descriptions of methods that they could use directly in their everyday context.

Conclusions: Involving practitioners and potential users enhanced the accessibility and utility of the guide. Their input ensured that the guide remained practical, relevant and informative without excessive academic or theoretical abstraction.

Key messages:

- Involving health promotion practitioners helped shaping the practical guide in a way to be most useful for the intended audience.
- Experts and practitioners have different views regarding the theoretical distinctions of levels of participation in community health promotion.

Abstract citation ID: ckae144.1752

Empowerment and interprofessional collaboration in health promotion centre Murska Sobota

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Background: Health promotion centres (HPCs) were introduced in Slovenian primary health care centres to provide interventions against risk factors for noncommunicable diseases (NCDs). HPCs integrate a multidisciplinary and community-based primary care approach to the prevention of NCDs and provide free lifestyle intervention programmes. This study aims to explore the perspectives of health care professionals on promoting health of local community members, as well as their perceptions of interprofessional collaboration in HPCs.

Methods: Two group discussions were conducted with a total of 11 health care professionals at the HPC Murska Sobota. Data collection was accompanied by a dual role interpreter in accordance with the principles of cross-language qualitative research. The data was transcribed, semantically translated and thematically analysed.

Results: Health care professionals emphasize the importance of health-related empowerment of individuals for the success of health promotion activities and therefore for the improvement of individuals’ quality of life. This is based on shared decision-making, self-management and educational measures in a combination of population- and individual-based approaches. The need for efficient interprofessional communication, characterized by a flat hierarchy, is stressed. Structured cooperation with other health care facilities, as well as close collaboration with communities and local media, are described as crucial for reaching all individuals and promoting health equity.

Conclusions: Interprofessional collaboration, health-related empowerment of individuals and collaboration with local communities are fundamental for the success of health promotion activities, achieving health equity and preventing NCDs. Understanding how these activities are implemented from the health care professionals’ perspective can help other health facilities developing and improving local health promotion strategies.

Key messages:

- Slovenian health care professionals see interprofessional collaboration as fundamental for the implementation of health-promotion strategies.
- Health-related empowerment of individuals and collaboration with local communities play an important role in achieving health equity in health promotion activities.

Abstract citation ID: ckae144.1753
Enhancing stroke awareness in schools: efficacy of the HOBIT program in Czechia's disadvantaged areas

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Background: For stroke treatment to be effective, it must be given as soon as possible. Delays are often caused by stroke bystanders failing to recognize symptoms and activate emergency medical services (EMS). This is especially a problem in socially excluded localities. This study evaluated the efficacy of a school-based intervention (HOBIT) in improving determinants and behavior intentions of EMS activation for suspected stroke in Czech socially excluded localities.

Methods: The quasi-experiment was conducted from May to June 2023 in the Moravian-Silesian region, Czechia. Schools were allocated to the intervention or control group (1:1). The HOBIT is a school-based intervention used to change health-seeking behavior when stroke is suspected. The primary outcome was the percentage change from the pretest to the follow-up test in the intervention group compared to the control group. The primary outcome was assessed in 4 domains: 1) knowledge, 2) behavioral intentions, 3) self-efficacy, and 4) outcome expectations. The intervention and control groups were compared using an unpaired t-test.

Results: We recruited 138 students aged 10-16 from 4 schools. The absolute differences in improvement between the control and intervention groups were 18% (95% CI 9-26, $P < 0.001$) for knowledge, 15% (95% CI 2-26, $P = 0.01$) for behavioral intentions, 6% (95% CI -4-15, $P = 0.24$) for self-efficacy, and 13% (95% CI 5-21, $P < 0.001$) for outcome expectations. The subgroup analysis showed that the intervention effect on self-efficacy, outcome expectations, and stroke behavior intentions was significant only in females.

Conclusions: The HOBIT improved stroke determinants and behavior intentions of EMS activation at schools in socially excluded areas. This study presents a health promotion practice that has the potential to improve stroke outcomes on a community level. It underscores the potential of school settings as an appropriate way to reduce health inequalities in socially excluded communities.

Key messages:

- The HOBIT intervention improved determinants and behavior intentions of EMS activation for suspected stroke among students in socially excluded localities.
- The study underscores the potential of school settings in reducing health inequalities and improving stroke-related outcomes in socially excluded localities.

Abstract citation ID: ckae144.1754
Facilitators and barriers to improving beverage consumption among primary school children in Belgium

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Background: School is seen as a relevant setting to intervene in children's health behaviour, including their beverage consumption. A randomized controlled trial (DRINK) has been implemented to compare nutrition and sustainability-based interventions to reduce sugary beverages and to increase tap water consumptions among primary school children in French-speaking Belgium. The aim of this qualitative study was to describe the context before the intervention implementation and to identify the facilitators and barriers to implementing the project.

Methods: In 2021, the 48 schools included in the trial responded to a semi-structured interview prior to the intervention, and 30 were interviewed one year later. School characteristics (including socioeconomic index, SEI) and contextual components were summarised. The qualitative corpus was analysed using thematic content methods to identify emerging themes, then classified into obstacles and facilitators.

Results: Of the 48 schools, 70.8% were Walloon, 76.6% had a medium or high SEI, and 41.7% included less than 90 pupils. The majority had already implemented nutrition and sustainable development initiatives before the trial. While taps were available in classrooms and reusable bottles were used, the initiatives could be extended, e.g. to increasing the number of water points. The main facilitators were the interest to receive additional support by the schools already involved in other projects, and the flexibility of the intervention. The main barriers were related to lack of access to tap water; insufficient support for the implementation of the intervention; and poor availability of school staff to get involved in such a project.

Conclusions: Alongside the main trial findings, understanding the facilitators and barriers will enable the intervention to be further adapted and extended. Considering the school context and perceptions is essential to ensure effective and durable school health initiatives.

Key messages:

- Largely involved in promoting nutrition and sustainability, the schools were keen to receive support to continue.
- Strengthening access to water, communication and support for schools are essential.

Abstract citation ID: ckae144.1755
Unlocking Health Literacy: investigating Parental Health Literacy and Child Weight Outcomes

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Background: While parental health literacy (HL) is widely recognized as crucial for child health, research on its impact on children's weight-related outcomes remains limited. This study aims to fill this gap by investigating the associations between parental HL and children's anthropometric measurements, with a focus on child BMI Z-score and waist-to-height ratio (WHtR).

Methods: As part of a cluster randomized trial in primary schools serving vulnerable populations, 735 children (51.7% boys, mean age 7.7 years) participated. Parental HL was assessed using the HLS-Q12 questionnaire, comprising 12 items. Health literacy levels, standardized from 0 to 100, were categorized into 'inadequate,' 'problematic,' 'sufficient,' and 'excellent' HL. General HL and three specific domains-health promotion, disease prevention, and health-care-were computed. Children's weight, height, and BMI were measured following standardized procedures. Regression analyses examined HL's impact on BMI Z-scores and WHtR.

Results: Parents with higher HL in disease prevention and health promotion had children with significantly lower BMI Z-scores, even after adjusting for parental education and children's sex sex [-0.010 (-0.18; -0.0001) and -0.10 (-0.019; 0.01). Similar associations were found for WHtR [-0.0004 (-0.001; -0.0001)]. Parents with excellent HL in general and health promotion had significantly lower WHtR [-0.027 (-0.046; -0.008)] and BMI Z-score [-0.74 (-1.2; -0.28)].

Conclusions: This study highlights the significant role of parental health literacy in shaping children's weight-related outcomes. Higher levels of parental HL in disease prevention and health promotion were linked to lower BMI Z-scores and WHtR in children, independent of parental education and children's sex. Enhancing parental HL, alongside promoting healthy behaviors and environments for children, could lead to more effective approaches for addressing this public health issue.

Key messages:

- Parental health literacy is associated with children's weight outcomes, emphasizing the need for HL-focused interventions.
- Higher parental HL is associated with lower child BMI Z-scores and waist-to-height ratios, highlighting potential HL's role in combating childhood obesity.

Abstract citation ID: ckae144.1756
What if we could eradicate cervical cancer?

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Introduction: WHO wants to achieve the elimination of Cervical Cancer: all countries must achieve and maintain an incidence rate of less than 4 per 100,000 women. Three key pillars: 90% of girls fully vaccinated against HPV by 15 years of age; 70% of women aged 35-45 years screened; 90% of women with pre-tumour lesion and invasive tumour treated. Our study assessed the position of the Tuscany South East Local Health Authority(LHA TSE) with respect to these three pillars and how to improve it.

Methods: A retrospective observational study was conducted. The following were used: ISTAT data of incidence of cervical cancer standardised by age from 2013 to 2017;data from ISPRO on screening(PAP and HPV test)from 2013 to 2022;data of vaccination coverage taken from the Health Information System of Collective Prevention(SISPC) from 2012 to 2023 for children<12 years,

Results: The incidence rate of cervical cancer in LHA TSE is 9.4 per 100 thousand. About HPV vaccine coverage by age 12, for girls it has been rising from 80.5% in 2012 to a peak of 84.8% in 2019 and then progressively decreasing to 76.3% in 2023.Coverage for boys has also been progressively increasing from 0.8% in 2012 to a peak in 2019 of 74.9% and then decreasing to 69.8% in 2023. A total of 52 thousand children are vaccinated. As for the adjusted adherence to screening, we started from an average adherence of 51.8% in 2013 (75 thousand women invited with 102% coverage) to 53.2% in 2022 (54 thousand women invited with 107% coverage). In 2013, ASC-US+ lesions were found in 6.4 % of women by PAP Test and in 2022 in 6.3 % of women. In the examined period, more than 90% of women with pre-tumour lesion and more than 90% with invasive tumour were treated.

Conclusions: LHA TSE will have to implement actions to increase vaccination coverage and screening adherence rates through awareness campaigns and open days, also considering whether a change in the age range for starting screening is necessary as vaccination coverage increases.

Key messages:

- Cervical cancer is one of the most preventable cancers, but too few young women are vaccinated against HPV infection, the main causative factor.
- Prevention through adherence to screening enables early identification of lesions caused by HPV virus.

Abstract citation ID: ckae144.1757
A systematic review on the effect of identity-related interventions on physical activity and smoking

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Background: Identity (self-perceptions of 'who I am') is important for health behavior change. Hence, identity-related interventions, aiming to influence how people view themselves, show promise for health promotion. This systematic review describes the effect of identity-related interventions on physical activity (PA), a health-promoting behavior, and smoking, a health-compromising behavior, and PA- and smoking-related identities in adults.

Methods: A comprehensive search, updated in May 2023, identified 5801 publications across eleven databases. After screening, 19 quantitative and mixed-methods publications were selected, describing 20 different studies. Relevant data were systematically extracted and a quality assessment was conducted using the Mixed Methods Appraisal Tool.

Results: Identity-related interventions were more common for enhancing PA (n = 13) than for smoking cessation (n = 6). Only one study targeted PA- and smoking-related identities to change both behaviors simultaneously. Various identity-related interventions were used, e.g. possible (future) selves manipulations and avatar games. The target population was rarely involved in intervention development. The results are mixed; some studies showed (significant) positive effects of identity-related interventions on identities or behavior, and no significant negative effects were shown. Similar results were found for PA and smoking. The one study targeting both behaviors showed positive results.

Conclusions: Identity-related interventions hold promise in promoting PA and smoking cessation. Future research could investigate identity-related interventions targeting multiple health behaviors, e. g., PA-promotion and smoking cessation, leveraging the synergy between those identities and behaviors. Collaboratively developing these interventions with the target population (i.e., patient and public involvement) could optimize them for different populations, improving public health and reducing health disparities.

Key messages:

- Identity-related interventions could improve public health.
- Collaboratively developing identity-related interventions with the target population could optimize them for different populations.

Abstract citation ID: ckae144.1758
The impact of a rural school-based oral health intervention among primary schoolchildren in Armenia

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Objectives: Oral health (OH) interventions are shown to be effective in improving children's OH status and behavior. This study evaluated the effectiveness of a school-based OH intervention combined with OH educational activities on rural schoolchildren's OH status and behavior in a rural setting in Armenia.

Methods: The study population were primary schoolchildren of Mrgashat village, Armavir province, Armenia, and their parents. The intervention included sealant application to eligible permanent molars of children and fluoridization of their teeth twice a year over a two-year period. Educational activities included a training session for children and their parents, and distribution of educational materials among them. Baseline (BL) and follow-up (FU) assessments were conducted before and after the intervention (in 2022 and 2024) to evaluate its impact. Both assessments included clinical examination of children's OH status by calculating their DMFT/dmft index, and telephone survey among parents on OH knowledge and behavior. The changes in DMFT/dmft index and OH knowledge and behavior scores were measured using paired t-test.

Results: Overall, 94 children and their parents participated in both BL and FU assessments. There was no significant change in the parental OH knowledge score: 77.4% (SD 14.0) at the BL and 78.7% (SD 13.2) at the FU. Yet, children's OH behavior score increased significantly: from 44.9% (SD 18.2) at the BL to 60.0% (SD 15.4) at the FU ($p < 0.001$). Children's DMFT/dmft index also improved significantly: from 7.31 at the BL to 5.09 at the FU assessment ($p < 0.001$).

Conclusions: The study demonstrated the effectiveness of the OH intervention in improving children's OH status and behavior. Therefore, we recommend expansion of the intervention with inclusion of more rural sites in Armenia, and targeting primary schoolchildren, considering the importance of timely preventive interventions and early development of healthy habits for better OH later in life.

Key messages:

- Oral health interventions among primary schoolchildren covering awareness raising and carries prevention activities result in positive changes in children's oral health habits and teeth health.
- Expansion of this type of interventions with inclusion of new rural sites and conduction of further assessments to explore the long-term effects of such interventions are recommended.

Abstract citation ID: ckae144.1759

Increasing step count of employees through the Semmelweis Workplace Health Promotion Program

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Background: Lifestyle greatly contributes to the development of age-related diseases. The goal of the Semmelweis University's 'Semmelweis Workplace Health Promotion Program' is to develop interventions that facilitate healthy ageing. The aim of its first intervention was to increase the step count of participants by incorporating motivational elements offered through the university's Center of Preventive Services.

Methods: A randomized controlled trial was conducted in spring 2024 with three study groups: those undergoing motivational interviews (MI, $n = 49$), those receiving motivational emails (ME, $n = 51$), and a control group ($n = 53$). Intervention groups (MI+ME) received weekly emails for 8 weeks emphasizing the benefits of increased step count and providing feedback on achievements. The MI group also took part in 4 biweekly consultations. Mean step counts of last week and energy expended while walking (MET) calculated from the International Physical Activity Questionnaire were recorded five and three times, respectively. Mixed model regressions were conducted for two pre-planned comparisons: MI+ME vs. controls, and MI vs. ME.

Results: Intervention groups exhibited a significant increase in average step count (1001 steps; 95% Confidence Interval [95% CI]: 349-1651) as a result of the program, while the control group experienced a non-significant decrease. This was accompanied by a significant increase in energy expenditure for walking (45 MET; 95% CI: 4-87) in intervention groups and a non-significant decrease for the control group. The study found no significant differences in step count and energy expenditure between the two intervention groups (MI vs. ME).

Conclusions: Our results suggest that workplace health promotion programs may effectively increase physical activity, and thus may be key in tackling the challenges posed by aging demographics. Preliminary findings did not indicate a superiority between email-based and motivational interview-based motivation.

Key messages:

- Workplace health promotion is an essential tool in promoting healthy aging among the working-age population.
- Step-count programs based on motivational interviewing serve as an effective and simple tool in increasing physical activity.

Abstract citation ID: ckae144.1760

Discussing health behavior change during pregnancy: co-creation of a training and conversation tool

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Background: Health risk behaviors during pregnancy are major risk factors for adverse health outcomes for mother and child, and they are more prevalent among vulnerable pregnant women. However, interventions often do not sufficiently meet the needs of disadvantaged groups. Changing behavior is more likely when people feel autonomous and when a behavior aligns with our identity (how we see ourselves). Despite the clear importance of identity in health behavior change, very few identity- based interventions exist for pregnant women, let alone for vulnerable pregnant women. Through co-creation, this study aims to develop an identity- and autonomy- based training program and conversation tool tailored to the needs and preferences of healthcare professionals and vulnerable pregnant women.

Methods: Four co-creation sessions were conducted with five professionals from medical and social domains, and five (expectant) parents in vulnerable situations. The Participatory Learning and Action research methodology was applied to ensure an equal and democratic process in designing the training and conversation tool.

Results: The training for professionals will focus on enhancing knowledge about the importance of identity and autonomy in behavior change, and on improving their self-efficacy through practicing the conversation tool. Example of the conversation tool, which can be integrated into daily practice, is a comic strip illustrating the conflict of being a smoker and a mother.

Conclusions: During intervention development, it is important to consider the needs and preferences of end-users, particularly for whom few appropriate interventions exist. Involving end-users yields valuable insights for feasible (e.g. one-consultation time frame) and accessible (e.g. easy-to-understand language) interventions. This study aligns with public health efforts toward early intervention and health promotion among vulnerable groups.

Key messages:

- During intervention development, it is important to consider the needs and preferences of end-users.
- This study aligns with public health efforts toward early intervention and health promotion among vulnerable groups.

Abstract citation ID: ckae144.1761
Experiences of weight discrimination were common in Finnish women with obesity

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Background: The consequences of obesity stigma, particularly weight discrimination, are widely felt in different sectors of society. Our aim was to examine the prevalence of experiences of weight discrimination in the Finnish adult population.

Methods: Data (n = 2,849) consisted of participants aged 20-64 years from the nationally representative Healthy Finland Survey in 2023, pregnant women and people with underweight excluded (body mass index, BMI, ≤18.5 kg/m2). The questionnaire inquired about the experiences of weight discrimination with a question "Have you experienced unfair treatment because of your weight during the last 12 months?". Information on education (low, middle, high) was inquired too. Height and weight were measured during the health examination, and BMI was calculated (kg/m2). Obesity was defined as BMI ≥ 30 kg/m2. Weighted prevalence was analyzed using logistic regression, considering sampling design and non-response.

Results: Overall, 13% (95% confidence interval, CI, 11-15) of women and 7% (95% CI 5-8) of men had experienced weight discrimination during the last 12 months. The experiences of weight discrimination varied according to BMI, as the prevalence was 27% (95% CI 22-32) among women with obesity vs. 7% (95% CI 6-9) among women without obesity. The corresponding numbers for men were 16% (95% CI 12-20) vs. 4% (95% CI 2-5). The results were similar across all educational classes.

Conclusions: Individuals with obesity had experienced weight discrimination more often than those without obesity. The problem affects women (in particular), as almost one third of women with obesity had experienced weight discrimination. It is important to raise awareness and recognize this phenomenon across all sectors of society to enhance inclusion in a world struggling with overweight and obesity.

Key messages:

- People with obesity experience weight discrimination. Experiences of weight discrimination appear to be more common in women than men.
- More information and understanding of weight-related stigma through education, research and values work is needed in different sectors of society.

Abstract citation ID: ckae144.1762
Impact of '10,000 Steps Duesseldorf' after one year: Results of a controlled intervention study

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Background: Despite marked decreases in physical activity (PA) in Germany due to the pandemic, population-based intervention strategies to tackle this public health problem remain sparse. The 12-month PA intervention '10,000 Steps Duesseldorf' was composed of multiple components: at individual level, website to self-monitor steps; organizational level, step count competitions; environmental level, city-wide media campaign to increase awareness regarding benefits of PA and street signage indicating walking routes. This study aimed to replicate a research trial from Belgium addressing two questions: (1) Do individuals located in the city that the intervention is implemented in (Duesseldorf) engage in more PA compared to individuals located in the control city (Wuppertal) after one year? (2) Is the proportion of those reaching 10,000 steps/day higher in the intervention than in the control city after the intervention?

Methods: To investigate intervention effects, PA was assessed via pedometers in two representative samples of adults aged 25-75 years in the cities of Duesseldorf (intervention) and Wuppertal (control) at baseline (April 2021 - March 2022) and one-year follow-up (May-November 2023). Baseline differences in socio-demographic and health-related variables between intervention and control were adjusted for in a propensity score model with matching weights.

Results: 627 adults participated in the study at baseline and 553 at follow-up (60% female, 60% intervention). The results of the propensity score analyses revealed that intervention participants walked 462 steps more (95% confidence interval: -146 to 1070) than controls at follow-up. However, the proportion of residents reaching 10,000 steps/day was comparable between intervention and control city after the intervention (26%, both cities).

Conclusions: Our results suggest an intervention effect on daily steps taken in Duesseldorf experiencing intervention activities compared to the control city after one year.

Key messages:

- The complex PA intervention from Belgium was successfully adapted and implemented in Germany resulting in a higher level of daily steps taken in the intervention city (compared to control).
- A limitation of the study is that the recruitment process was hampered by the ongoing pandemic, resulting in selection bias, i.e. already active individuals were more likely to enrol in the study.

Abstract citation ID: ckae144.1763
Effectiveness of a check-up for rehabilitation and prevention needs in primary care

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Background: General practitioners play a central role in initiating rehabilitation and prevention services. However, systematic screening for rehabilitation and prevention needs has not been carried out in general practices so far. The legislation encourages the implementation and evaluation of so-called 'check-up 45+', which target individuals aged 45 and older. The study aims to evaluate the effectiveness of a check-up 45+ in primary care.

Methods: A pragmatic, randomized controlled trial was conducted in 26 general practices in the German states of Berlin and Brandenburg among patients aged 45 to 59 years (DRKS00028303). The control group (n = 695) received usual care plus a questionnaire on sociodemographic and health-related characteristics. The intervention group (n = 706) completed additionally the 2-page 'screening 45+', which captures rehabilitation and prevention needs in five dimensions. After algorithm-based ad hoc evaluation by practice staff, the general practice could modify the recommendation based on available information (e.g., diagnoses, social situation). Information and application documents were provided in case of identified needs. Applications (primary outcome) and approvals (secondary outcome) of rehabilitation and prevention services were recorded using routine data.

Results: In the intervention group, 64.2% were women, compared to 63.0% in the control group (mean age 52.1 (SD 4.3) and 52.5 (SD 4.4) years). In the intervention group, 85 applications (12.0%) for medical rehabilitation or prevention services were submitted within two months after the study participation, compared to 20 applications (2.9%) in the control group ($p < 0.001$). The number of approvals for these services was 59 vs. 17 ($p < 0.001$).

Conclusions: The application rate for rehabilitation and prevention services was significantly higher in the intervention group compared to the control group, with a relative risk difference by a factor of 4 and an absolute risk difference of 9.1%pt.

Key messages:

- The implementation of a check-up 45+ in primary care leads to a higher rate of applications for rehabilitation and prevention services compared to usual care.
- The check-up 45+ may assist general practitioners in systematically identifying rehabilitation and prevention needs of their patients and in applying for these services.

Abstract citation ID: ckae144.1764

Developing mental wellbeing promotion practices in Finnish primary schools: The CONSENSUS project

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Issue/problem: Schools constitute a key arena for promoting mental wellbeing among children and adolescents, and the Finnish welfare state has many beneficial structures in place for promoting mental wellbeing in schools. However, as mental health problems are prevalent, the need to advance this work is vital, ideally applying a holistic approach focusing on school-family interaction.

Description of the problem: The Finnish CONSENSUS project (2021-2025) focuses on the development of new practices and collaboration models in mental wellbeing promotion, targeting pupils in 13 primary schools in the Ostrobothnia region. The project answers question such as: What focal areas are prioritized by stakeholders in the development of mental wellbeing promotion in schools? How do participatory principles contribute to the development process and related outcomes?

Results: In 2024, a synthesis of previous project results (interviews, focus groups and longitudinal survey data collected among pupils, school personnel, school health care services and parents) was generated. The synthesis encompasses 20 possible priority areas to focus on in the development of mental well-being promotion actions, which are ranked by stakeholder representatives utilizing Delphi methods. Some pinpointed priority areas are implemented and evaluated in collaboration with self-selected schools during the academic year 2024-2025.

Lessons: Results highlight priorities in the development of mental wellbeing promotion in Finnish primary schools and describe focal areas being piloted, also illustrating opportunities and challenges when implementing participatory principles in action research projects.

Key messages:

- Project results highlight prioritized areas in the development of mental wellbeing promotion in Finnish schools, as well as new initiatives currently being piloted.
- The project approach emphasising participatory principles provides lessons for other initiatives focusing on mental wellbeing promotion development in schools.

Abstract citation ID: ckae144.1765

Support mechanisms and obstacles for developing public health practitioners' core competences

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Community health needs assessment is one of the central activities for local governments in Estonia, specifically under the health promotion strategic planning, and this includes developing health and well-being profiles for evidence-based public health promotion. For effective implementation of the profile, sufficiently trained public health practitioners are needed. Therefore, analysis of the needs of the additional study programmes according to the core competences of professional standard for health promotion was carried out among public health practitioners and the leaders of local governments. The study was based on the 19 semi-structured interviews carried out in 2022-2023 with leaders (10) and public health practitioners (9) in Estonian local governments. Based on the local government's size, status of the health and well-being profile and the employment and educational background of the public health practitioner three sub-groups were developed. The collected data was analysed using qualitative content analysis with focus on support mechanisms and obstacles of core competences of public health practitioners. The respondents indicated the need for training on communication (leadership and advocacy) and analytical skills (evaluation and research). Core competence training is however limited by resources (time, energy, motivation, funding), employer expectations (overload at work) and working full-time. Training is supported by personal motivation (e.g., wish to stay competent, understanding the need for training), employer support (including flexible work arrangements), and curriculum support (funding is covered). The results indicate there is a need for flexible education as the need for developing and maintaining core competences emerges in practical work. The results can be used for developing the public health curriculum, to assess and provide training for public health practitioners to better meet the needs of the labor market in the future.

Key messages:

- Local government employees performing health promotion tasks feel the need to upgrade various core competences: e.g., communication, management, data analysis and assessment.
- In health promotion, there is a growing need for flexible education, which creates challenges for higher educational institutions to meet the needs of the labor market.

Abstract citation ID: ckae144.1766

Needs and opportunities for developing health and well-being profiles in Estonian local governments

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The creation and implementation of health and wellbeing profile, an evidence-based framework for planning health promotion as holistic process, is the responsibility of public health practitioners, who tend work part-time and sometimes lack professional competences. The current study maps the level of awareness, attitudes, needs and possibilities of local government leaders and public health practitioners to develop and implement profiles effectively in Estonian local governments. Semi-structured interviews with leaders in local governments (10) and practitioners (9) were conducted in 2022-2023. Data was analysed using qualitative content analysis. Sample included representatives from all Estonian local governments (79 in total) and were categorized into subgroups based on local governments size, status of the profile, public health specialist employment, and educational background. Preliminary results indicate that leaders find as a supportive factors for enabling and encouraging profile compilation process for example: mandatory requirement; motivated implementors; well organized and effective workplan. Specialists find supportive factors to be cooperation on the national level, good communication practices and joint responsibility. Barriers for health promoters are the lack of time, motivation, financial resources, stakeholders understanding and meaningful action. The first qualitative study on these topics in Estonia highlight that creating a profile is supported by previous positive experience and have per contra an opposite negative effect to start the process. In general, the profile was considered necessary for helping identify problems and support decision-making processes for managing resources, however, assessment whether the profile should be obligatory is needed. In addition, there is a need for further support for the evidence-based decision-making process on the local level in health promotion by offering education and guidance from the national level.

Key messages:

- Knowledge about the importance of public health, barriers and decision-making principles of local government leaders and specialists helps to develop interventions based on actual needs.
- Continuously updated health and well-being profile ensures sustainability of health promotion action and is useful knowledge to policymakers, local government leaders and public health practitioners.

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Exploring health-related quality of life in Portuguese Informal Caregivers

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Background: Caregiving can be associated with several adverse health impacts, such as in terms of mental health, health services use, or health-related quality of life (HRQoL). This study assessed HRQoL levels in Portuguese Informal Caregivers, and their relationship with caregiver psychosocial characteristics (e.g., perceived general and mental health; perceived level of support) and caregiving circumstances (e.g., caregiving duration, caregiving hours).

Methods: A cross-sectional study was conducted through an online survey directed to informal caregivers. HRQoL was measured using the Portuguese translation of the EQ-5D-5L. This instrument yields two values for HRQoL: a health profile (EQvalue) covering five dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), and a visual analogue scale (EQvas). Bivariate analyses were performed and results with p-values below 0.05 were considered statistically significant.

Results: A total of 760 informal caregivers were surveyed (mean age 57 years (±9.9), 92.5% female, 41.5% at least university level, 44.4% works full or part-time). The mean total score for EQvalue ($n = 733$) was 0.8 ($SD = 0.2$). The mean total score for EQvas ($n = 760$) was 63.1 ($SD = 21.5$). The perceived general ($p < 0.001$) and mental ($p < 0.001$) health status, and the perceived access to healthcare ($p < 0.001$) were associated with EQvalue score. Also, EQvalue score was found to be directly correlated with the perceived level of support ($r = 0.142$; $p < 0.001$) and competence ($r = 0{,}237$; $p < 0.001$), and inversely correlated with the number of caregiving hours per day ($r= -0{,}150$; $p =< 0{,}001$) and the caregiving duration ($r= -0{,}109$; $p = 0.008$).

Conclusions: A significant relationship between caregiver HRQoL and several caregiver psychosocial variables was identified. Investing in and promoting the use of respite care services, as well as ensuring better access to healthcare for caregivers, appears important for improving caregivers' HRQoL.

Key messages:

- Improving caregivers' access to healthcare and education or training programs (promoting a greater sense of competence) can be important in helping them maintain their quality of life.
- Increasing the availability and promoting the use of respite care services by caregivers can be important in helping them maintain their quality of life.

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Exploring factors of HPV self-sampling acceptance:a qualitative study with hard-to-reach women

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Background: Cervical cancer disproportionately affects socially disadvantaged women, who tend to be underscreened and are generally called "hard-to-reach". HPV DNA testing based on self-sampling test is an alternative strategy to address women's low screening uptake and reduce inequalities. Psychosocial factors like self-efficacy, ethicality, and testing conditions should be considered when assessing the acceptability of HPV self-sampling. However, research on the acceptability of HPV self-sampling is scarce among hard-to-reach women. Our study aims to explore self-efficacy beliefs, perceptions of how well HPV self-sampling fits participants' values and their preferred testing conditions and understand how these factors influence the acceptability of HPV self-sampling test among hard-to-reach women.

Methods: This qualitative study used a semi-structured guide based on three constructs of the Theoretical Framework of Acceptability. Focus group discussions (FGD) were conducted with $n = 63$ hard-to-reach women in Portugal (2 FGD), Ecuador (4 FGD), and Belgium (3 FGD). Data were analysed using deductive content analysis.

Results: While some women viewed HPV self-sampling as acceptable, others questioned its compatibility with their ethical views and moral principles, stressing that the test cannot replace the clinical examination. Participants held conflicting views, with some expressing confidence in their sampling abilities while others feared making errors when taking the sample. Cultural disparities in preferred testing conditions emerged: Ecuadorian women preferred solo testing, while those in Europe preferred assistance.

Conclusions: This study indicated ambivalent attitudes towards self-sampling. Further research on HPV self-sampling acceptability is needed to explore socio-cultural nuances. Our study emphasises the importance of culturally attuned interventions to address these populations' needs and reduce inequalities.

Key messages:

- Hard-to-reach women harbour conflicting views about self-sampling.
- Screening policies may include opportunities for self- and clinician sampling.

Abstract citation ID: ckae144.1769
Influencers as a new source of health information: Insights from an Austrian youth survey

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Background: Social media influencers (SMIs) have become the dominant source of health information for youth. While some SMIs may share valuable content, critics raise concerns that they lack expertise, have commercial motives, or hold personal biases. Yet, little is known about the epidemiology of the health influencer phenomenon. This study offers first insights into the reach of SMIs among Austrian youth, informing public health strategies to promote positive health behaviors in young populations.

Methods: A cross-sectional study was conducted with a representative sample of 1003 Austrian adolescents and young adults aged 15-25. Key research questions focus on the epidemiology of health influencers, engagement with SMIs, prevalent health topics, advertising, and perceived impact of SMIs on health.

Preliminary results: Participants estimate that over 51% of social media posts they see are from SMIs, and 75.37% follow at least one SMI. Additionally, 37.19% follow SMIs who specifically share health content, and 30.91% have purchased health products recommended by them (e.g., foods, supplements, beauty products). Moreover, 40.27% trust their followed SMIs for health information, similar to trust in traditional media (43.47%). Finally, over a third find SMI content beneficial for health (32.34%), while 29.20% find it harmful, and 33.83% neither.

Conclusions: The study provides first insights into the epidemiology of health influencers, revealing their extensive reach and positive reception among young people. Despite concerns about conflicts of interest or expertise, SMIs are perceived as trusted sources for health information and product purchases. This research enhances our understanding of influencers' impact and informs public health strategies aimed at promoting positive health behaviors among youth. The insights from Austrian youth can inform future studies across Europe, deepening our understanding of the health influencer phenomenon and its implications for public health.

Key messages:

- This cross-sectional study shows the high reach of social media influencers among youth and their important role as emerging sources of health information.
- The study breaks new ground by investigating adolescents' engagement with health influencers, offering insights for public health to promote positive health outcomes among young populations.

Abstract citation ID: ckae144.1770
Procrastination and risky behaviors: preliminary results among Italian university students

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Background: The study aims to investigate if the tendency to procrastinate has a relationship with engaging in risky behaviors among university students.

Methods: A cross-sectional study was conducted at the 'Magna Græcia' University of Catanzaro, in the Southern part of Italy, using a stratified random sample technique. Undergraduate students (ages 18 to 30) were provided with an anonymous online survey via the institutional email. The survey comprised five sections to assess procrastination levels, sleep quality, breakfast habits, alcohol and tobacco use, and social and demographic characteristics.

Results: Of the 404 participants, more than half were enrolled in medicine or life science majors. The procrastination mean score was 14.8(IQR 10-20). Poor sleep quality was found in 57.2% of students and women were the most affected part of the sample. The logistic regression model revealed that higher procrastination levels increased the likelihood of engaging in unhealthy behaviors such as breakfast skipping, alcohol abuse, and poor sleep quality. Furthermore, the study found that people who skipped breakfast were more likely to engage in smoking and alcohol abuse, suggesting the interconnectedness nature of unhealthy behaviors.

Conclusions: The study's findings shed light on the correlation between procrastination and unhealthy habits. Moreover, the results can offer recommendations for how universities might successfully support students by implementing integrated, evidence-based programs to assist students who struggle with procrastination. Indeed, universities can serve as centers for promoting wellness by increasing awareness of the need to change deeply rooted behavioral patterns. Hence, breaking the vicious cycle of procrastination can ultimately lead to improved academic performance and overall well-being for students. This will benefit both individuals' and the general public's health.

Key messages:

- The novel correlation between procrastination and risky behaviors among university students was shown.
- Targeted interventions must include procrastination tendency to improve academic results and general well-being.

Abstract citation ID: ckae144.1771
Evidence-Based Programs in France: Insights and Strategies for Implementation Support

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Issue: In France, both regional and national health institutions increasingly support and fund the implementation of evidence-based programs (EBP), promoted at the national level by the French Public Health agency.

Description of the problem: practitioners who implement EBP face several operational questions: scaling issues, implementation in specific and varying contexts, integration and adjustment to daily regional practices.

Results/effects: In 2023, the French Society for Public Health initiated a collaborative effort to create a platform for discussion among practitioners, researchers, and decision-makers involved in EBP implementation. The first step was to assess EPB implementation experiences, using 3 types of data: an analysis of 6 documented EBP (capitalization works), an online questionnaire answered by 29 stakeholders, and four focus groups with funders, researchers, practitioners, and institutions. Data analysis was based on thematic content analysis and structural data analysis.

Lessons: Different ways to implement EBP were identified through a typology. The results highlight favorable conditions and levers for EPB implementation in France: • Facilitate access and adoption of EBP by concerned stakeholders, including through clear communication and knowledge sharing; • Strengthen and value support for implementation support (i.e., providing necessary resources and continuous monitoring); • A 'favorable environment' is also required (i.e. regional context acceptability and information on program themes or topics); • Breadthen perspectives and promote mutual learning through sharing and comparing implementation experiences across regions; • Value transferability and adaptation studies, which are key to enable EBP adaptations to account for context specificities while maintaining effectiveness. The platform's next steps are to develop deployment tools and structure an advocacy strategy to mobilize stakeholders around the issue.

Key messages:

- Achieving wide-scale implementation of EBP requires to tackle key implementation issues such as scaling, context adaptation, etc. and to give support to implementing stakeholders.
- A collaborative assessment helped identify levers and barriers to EBP implementation in France. Involvement in EBP fosters an evidence-based mindset among practitioners.

Abstract citation ID: ckae144.1772
Understanding influences of cervical screening attendance among women of low socio-economic position

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Women of lower socio-economic position (SEP) have a higher incidence of cervical cancer and lower uptake of cervical screening. The Integrated Screening Action Model (I-SAM) is a behaviour model aimed to guide intervention development that considers how individuals engage with screening through their environment, capability, opportunity, and motivation. The I-SAM can be used to understand behaviour of cervical screening. We aimed to understand perceptions and awareness of HPV screening among women aged 25-65 of low SEP living in an urban area in Ireland. Semi-structured interviews were conducted with women who self-reported regular or irregular screening attendance, no university-level education, low-income employment or not working, aged 25-65 and living in Dublin. Participants were recruited via community organisations. Data were analysed using I-SAM in a framework analysis to map barriers and enablers of attendance of regular and irregular attenders. Of the seventeen women interviewed, seven attended screening irregularly. Participants thought they had opportunity to attend when they were reminded and supported to attend by peers and healthcare professionals. Participants wanted to promote screening in the community and to normalise conversations on sexual health. Participants felt fear of cancer was a driver and deterrent to attend screening due to cancer running in the family, past health issues and abnormal cell treatments, and wanting to be there for their family. Few were aware of HPV or the switch to HPV screening. Irregular attenders were unsure how to book or find information on screening. Campaigns should involve communities that are less likely to attend to improve visibility of screening. Healthcare professionals could opportunistically promote HPV screening in primary care and community settings. Campaigns should be aimed at improving literacy of HPV screening, address concerns of cancer risk and support navigation through screening.

Key messages:

- Understanding of HPV cervical screening is limited and campaigns are needed to improve awareness and literacy.
- Public health campaigns should engage with communities to promote screening via community groups and healthcare professionals.

Abstract citation ID: ckae144.1773
Quality of life and adherence to healthy lifestyle factors among breast cancer survivors in Cyprus

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Breast cancer is a prevalent disease for women globally, with rising survival rates highlighting the need to address the breast cancer survivors' (BCS) quality of Life (QoL). Furthermore, adherence to a healthy lifestyle is associated with decreased mortality in BCS. Mapping the Lifestyle Medicine pillars and the World Cancer Research Fund/American Institute for Cancer Research recommendations identifies 7 healthy lifestyle components: weight management, physical activity, healthy eating, restorative sleep, avoidance of risky substances, positive social connections and stress management. This study examines adherence to these healthy lifestyle components and QoL among BCS. A cross-sectional study conducted in 2022-23 recruited primary adult BCS from the Bank of Cyprus Oncology Centre. Participants completed a survey assessing self-reported QoL and adherence to the aforementioned 7 healthy lifestyle components, through validated questionnaires. Out of 349 BCS approached, 272 were included in the final analysis. Mean age and time since main treatment completion were 51 (SD: 7.4) and 3.6 (SD: 2.5) years respectively. Amongst study participants 58% were classified as bad sleepers, 53.3% were overweight or obese, 23% were stressed, 78% reported to have moderate/high physical activity, and 60% adhered to the Mediterranean diet. Regarding substance use, 16% were current smokers, and 18% were hazardous drinkers. Median score for social support was 75 (IQR: 53-97; max score=100) and for QoL was 67 (IQR: 50-97; max score:100). BCS in Cyprus generally exhibit moderate adherence to the Mediterranean diet, engage in fairly active lifestyles and enjoy high levels of social support and QoL. On the other hand, a substantial proportion smoke or drink, are overweight or obese, are stressed and have poor sleep quality. Targeted interventions to increase the adherence of breast cancer survivors to the 7 healthy lifestyle components are required.

Key messages:

- Overall variability exists in the adherence to healthy lifestyle components among BCS in Cyprus.

- This population can benefit from intervention targeting sleep, stress and weight management.

Abstract citation ID: ckae144.1774
Physical activity promotion as intersectoral planning in Milan Health Protection Agency

Lia Calloni

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Issue/problem: Physical activity is a protective factor for preventing Noncommunicable diseases (NCDs) and, for this reason, it plays an important role in all the different guidelines for prevention and health promotion. The Italian Regional Prevention Plans and in particular the Lombardy one promote physical activity with a systemic approach, through both upstream and downstream actions to encourage the role of communities.
Description of the problem: Based on the regional plan, the Health Protection Agency (HPA) of the Metropolitan City of Milan developed locally validated actions and best practices for the promotion of physical activity, through the cross-sectoral involvement of different stakeholders (health system, companies, universities, local authorities, sports associations, etc.).
Results: Physical activity is embedded in all lines of health promotion activities in local planning documents. Sustainable and active mobility activities have been implemented in companies and schools with a comprehensive approach. Validated regional programs (Pedibus, Walking Groups, ecc.) have been implemented in the local community, along with the construction of permanent local laboratories for physical activity, structured through the development of specific territorial networks and providing for integration with the socio-sanitary setting.
Lessons: Promoting physical activity becomes an opportunity to both consolidate territorial networks and to develop evidence-based health promotion actions able to meet the different health needs of the population and to produce a structural change in living contexts.
Key messages:

- Physical activity is both a protective factor for health promotion and a tool for implementing intersectoral and equity-oriented system actions from a life-course perspective.
- Promoting physical activity becomes an opportunity to consolidate territorial networks.

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How does a Smoke-Free campus initiative generates changes in smoking? A theory-based evaluation

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Background: Smoke-free campuses (SFC) prohibit smoking and vaping on all university grounds and for all users. Despite their effectiveness in reducing smoking prevalence, passive smoking, and denormalizing tobacco use, the complex interplay between the programme activities and their impact on users and campus environments remain unclear. This study aims to improve our understanding of the transformation processes associated with SFC expected outcomes.
Methods: We conducted a retrospective qualitative study on the first SFC implemented in France by the EHESP School of Public Health. Guided by Mayne's theory of change framework that includes ten dimensions of an impact pathway (e.g. activities, reach/reaction, capacity, behaviour changes, etc.), the research examined the chain of effects and hypotheses driving this SFC. Our dataset included internal documents (e.g. minutes of meetings, administrative documents) and semi-structured interviews with stakeholders ($n = 16$) involved in the development and implementation of the analysed SFC. Data is currently being analysed.
Results: Initial results suggest that the EHESP's SFC activities included communication initiatives, student ambassadors, cessation support for smokers, installation of smoking shelters on campus periphery, etc. These activities were geared on capacity change (e.g. securing support and compliance among campus users, reduce smoking opportunities, promoting the use of cessation aids) and were intended to drive behaviour change (reducing smoking and facilitating cessation among students and staff). The goal of this SFC was not only to impact behaviors but also to educate future health service managers at EHESP to implement SFC policies and set an example for other institutions in France.
Conclusions: This study identifies some of the transformations that activities of the EHESP's SFC can generate in students and staff in order to fulfil its outcomes. It also highlighted its expected impact on other institutions.
Key messages:

- Understanding how a smoke-free campus generates its changes is essential in facilitating transferability of experiences to other universities.
- Smoke-free campus policies can also generate a broader impact on other institutions.

Abstract citation ID: ckae144.1776
Associations between study conditions and students' mental health: Results from the StudiBiFra study

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Background: Study conditions are relevant for university students' mental health and well-being. Previous research identified single factors associated with mental health, but it remains unclear, which study conditions at higher education institutions should be priority targets for institutional action. The aim of this study is to provide a comprehensive overview of students' satisfaction with their study conditions and to analyse their associations with students' mental health.
Methods: The cross-sectional StudiBiFra study encompasses data from 24,533 students across 13 higher education institutions in Germany. Data was collected between June 2021 and March 2023 using the Bielefeld Questionnaire on Study Conditions and (Mental) Health. Students rated study conditions in 22 domains and four scales of mental health outcomes. Mean scores for all scales were calculated and linear regressions were used to analyse bivariate associations.
Results: All domains of study conditions were associated with all domains of students' men-tal health with regression coefficients ranging from $r = 0.21$ to $r = 0.78$. The more satisfied students were with their study conditions, the higher the reported well-being, and the lower the depressive symptoms, cognitive stress symptoms, and exhaustion. The highest associations were found for the

domains of study conditions "examinations and academic achievements", "time requirements", and "fit of course content/competency development" with highest re-gression coefficients for the outcome of exhaustion.

Conclusions: The findings reveal significant moderate to high associations for all assessed study conditions with students' mental health. Institutional action should focus on these study conditions by emphasising topics such as applying competencies during studies and good co-ordination of content and examinations. Thus, decreasing student burden and time pressure has the potential to promote mental well-being.

Key messages:

- Study conditions are significantly associated with students' mental health.
- Higher education institutions should focus on study conditions to promote students' mental well-being.

Abstract citation ID: ckae144.1777
Is being a physically active parent related to having a physically active son/daughter?

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Background: Engaging in physical activity (PA) during childhood and adolescence can promote lifelong healthy habits and improve overall health. Physically active parents could play a key role in influencing the sons' and daughters' PA. The study aimed to evaluate the levels of PA among children and adolescents and to investigate the possible relationship with PA levels of parents.

Methods: This cross-sectional study involved a random sample of parents of a son/daughter aged 5 to 17 years in the Southern part of Italy. Data were collected through an anonymous self-administered questionnaire designed to retrieve i) sociodemographic characteristics and anthropometric data, ii) parent's knowledge about the World Health Organization's (WHO) guidelines (GL) about PA, iii) levels of PA of son/daughter and parent.

Results: Preliminary findings refer to a sample of 230 parents, of whom, 52.2% were women with a mean age of 38.6 (SD ± 6.8) years. The vast majority of the sample was employed (79.6%) and married (89.1%). Less than half (48.7%) were knowledgeable about WHO's GLs for PA both in adults (52.6%) and children/adolescents (74.8%). Almost two-thirds (63%) of parents practised PA according to WHO's GLs. Among sons/daughters, 44.4% practised PA according to WHO's GLs. The results of the multivariate analysis showed that sons/daughters of physically active parents had higher odds of practising PA according to WHO's GLs (OR:6.48, 95%CI:3.29-12.79). Similarly, those with parents knowledgeable about WHO's GLs for PA (OR:3.19, 95%CI:1.75-5.83) were more likely to practise PA according to WHO's GLs.

Conclusions: Preliminary results reveal a lack of compliance with WHO's GL on PA, especially among children and adolescents. This is of concern since it is linked to negative health outcomes in the future. The figure that sons/daughters of active parents had a higher likelihood of being active highlights that public health organizations should prioritise family-based interventions for PA.

Key messages:

- Almost one-third of adults and more than half of the children and adolescents in the sample did not comply with WHO's recommendations for physical activity.
- Sons and daughters of physically active parents are more likely to be active, prompting the need for family-based public health intervention to promote physical activity.

Abstract citation ID: ckae144.1778
Exploring co-creator's experiences: a multiple case study addressing workplace sedentary behaviour

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Co-creation is an innovative approach for addressing complex public health issues. Co-creator's experience of participating in co-creation can impact engagement yet research investigating co-creation experience is limited. A better understanding of co-creation experiences can inform optimal design and implementation of the co-creation process. This study's objective was to conduct a cross-case analysis of co-creator's experiences from 3 co-creation processes aimed at addressing workplace sedentary behaviour within 3 different small-to-medium sized companies in Scotland. Thirty-one co-creators were involved in the case study companies from Oct 2022 to Jun 2023. Data sources included observations, interviews, and researchers' reflections. A multiple case study design enabled the exploration of co-creator's experience across cases. A within-case thematic analysis was conducted to develop a deep understanding of cases before comparing findings between cases using Miles and Huberman's guide to cross-case analysis. Preliminary findings indicate co-creation experiences are associated with events occurring before, during and after the co-creation process and are influenced by company context (i.e., company structure, resources and demands) and co-creation context (i.e., design and facilitation of the process). Co-creators had various motivations for their involvement. During the co-creation process there was a range of common experiences such as a sense of belonging, enjoyment and frustration. After co-creation, there was an overall sense of satisfaction accompanied by positive outcomes, including an intention to adopt healthier behaviours. Insights into co-creator's experiences support the use of co-creation for addressing workplace sedentary behaviour. The findings have implications for researchers planning co-creation processes at small-to-medium sized companies. Tailoring co-creation to co-creator's needs and wider company context can enhance its innovative potential.

Key messages:

- This study's significance lies in its qualitative cross-case analysis of co-creation experiences which enhances research rigour and enables contextualised generalisation.
- The innovative potential of co-creation can be enhanced by tailoring it to meet the needs and preferences of the co-creators and considering the wider company context.

Abstract citation ID: ckae144.1779
Exploring the perceived dynamic system driving inequities in the community obesogenic environment

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Introduction: Persons in socioeconomically disadvantaged situations (PSEDS) are more susceptible and disproportionally exposed to obesogenic environments, resulting in poorer dietary outcomes and lower levels of physical activity. This study aimed to map the complex dynamic system within the community obesogenic environment driving unhealthy eating and insufficient physical activity among PSEDS in Flanders, and to identify potential local actions.

Methods: Participatory group model building (GMB), a qualitative system dynamics method, was used to engage PSEDS ($n = 7$), local decision makers ($n = 7$) and local stakeholders ($n = 5$) in two Flemish municipalities. A two-day GMB session was held in each municipality during which a causal loop diagram (CLD) was created and potential local actions were identified by considering causal pathways and reinforcing loops in the system.

Results: The CLD was designed around two main variables (i) healthy eating and (ii) physical activity among PSEDS. Seven subsystems could be identified: 1) social environment, 2) facilities and activities, 3) mobility options, 4) information, 5) affordability, 6) safety (specifically for physical activity), and 7) industry and advertisement (specifically for eating behaviour). Several actions to improve the local environment to promote eating behaviour and physical activity among PSEDS were identified.

Conclusions: The CLD illustrates the complex interactions between individual and environmental determinants contributing to inequalities in eating behaviour and physical activity by including multiple perspectives of community members in socioeconomically disadvantaged situations, local decision makers and local stakeholders. Both the participatory GMB approach and the final CLD visualization can provide the basis for planning local actions for promoting healthy eating behaviour and physical activity among PSEDS.

Key messages:

- Group model building is an effective approach to explore and understand a dynamic complex system through a shared understanding among diverse stakeholders.
- A systems approach is valuable to provide a more comprehensive and context-specific understanding of the perceived factors contributing to inequities in the obesogenic environment.

Abstract citation ID: ckae144.1780
Development and validation of the Behavioral Determinants of Deprescribing Questionnaire (BDDQ)

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Background: Deprescribing is a strategy to optimize medication use. While health behaviour can successfully be predicted by health behavior theories, the literature on deprescribing relies almost exclusively on questionnaires that measure attitudes only, such as the Beliefs about Medicines Questionnaire and the Patients Attitudes Towards Deprescribing, resulting in poor predictive validity. The aim of this study was to develop a new tool to measure the psychological determinants of deprescribing among people aged over 60, based on concepts derived from health behaviour theories.

Methods: A draft self-report questionnaire was developed consisting of 64 questions measuring 11 dimensions representing determinants of deprescribing. As well as previous deprescribing experience, current deprescribing behaviour and willingness to deprescribe. Face validity was assessed by asking 10 health professionals and 13 of older people to complete the questionnaire and comment in a small group discussion, resulting in the removal of 18 items. Construct validity was assessed on a sample of 103 participants aged over 60, using exploratory factor analysis (EFA). Internal consistency was assessed via Cronbach's alpha.

Results: The EFA could confirm 11 dimensions explaining 70,5% of the total variance, but revealed poor loadings for several items and inadequate alphas (<.50) for two factors. Removal of items and these two dimensions resulted in 26 items measuring 9 dimensions, all showing acceptable internal consistencies (between .52 and .77): perceived risk; relatives' involvement; deprescribing concerns; attitudes; medication beliefs; healthcare support; perceived difficulties; motivation to comply; communication accessibility.

Conclusions: This study produced a conceptually based and psychometrically validated questionnaire to assess behavioural determinants of deprescribing. It provides for a more comprehensive investigation of deprescribing intentions and behaviour of older adults.

Key messages:

- A conceptually sound, psychometrically validated questionnaire (BDDQ) was developed.
- BDDQ can be used for a more comprehensive study of de-prescribing in older people.

Abstract citation ID: ckae144.1781
Is harmonizing to social drinking norms associated with alcohol use in Danish high school students?

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Background: Alcohol use is positively linked with perceived drinking norms within the peer group and the social plasticity hypothesis proposes that youth are very good at harmonizing to social norms (social attunement). Youth with high social attunement may adjust their drinking habits to the perceived drinking norms of the peer group to a higher extent potentially leading to a larger impact on personal alcohol use. This study examined if frequency of personal alcohol use was associated with perceived peer approval of drinking and the role of social attunement in Danish high school students aged 15-19 years.

Methods: An online survey was administered to 2977 first-year students from 16 public high schools in Denmark. Students reported past month alcohol use (drinking days, using TLFB) and perceived approval of alcohol use among peers of their grade. Social attunement was calculated as a sum score of the 11-item Dutch Social Attunement Questionnaire (SAQ) (range: 11-77; $\alpha = 0.81$). Number of drinking days was analysed as dependent variable, with age, gender, perceived peer approval and SAQ-score as independent variables.

Results: Older students were more likely to perceive peers to approve drinking ($\beta = 0.25$; $p = 0.004$) and getting drunk ($\beta = 0.22$; $p = 0.003$). More females (83.2%) than males (81.8%; $p = 0.003$) perceived peers to approve youth getting drunk. Multilevel regressions showed increased drinking days for students perceiving peers to approve of drinking ($\beta = 1.68$; $p < 0.001$) and getting drunk ($\beta = 1.80$; $p < 0.001$). We found interaction between SAQ-score and perceived drinking norms ($\beta = -0.10$; $p < 0.001$) indicating that perceived peer approval had less effect on drinking days for students with high SAQ-score.

Conclusions: Social attunement explained additional variance in the association between personal alcohol use and perceived drinking norms. Our findings stress the importance of addressing the influence of behavioural adaptation in e.g. school-based health promotion programs.

Key messages:
- Students perceiving peers to approve of youth alcohol use drink more frequent, but the link is weakened when the need to harmonize to perceived drinking norms are high.
- Social attunement needs to be considered when examining the link between individual alcohol consumption and perceived drinking norms and should be addressed in e.g. school health programs.

Abstract citation ID: ckae144.1782
First things first: measuring French Medical schools' deans motivation to engage in smoke-free campus

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Smoke-free campuses (SFC) prohibit smoking and vaping on all university grounds and for all users. Around a hundred of papers was published on that topic revealing how they reduce initiation and increase smoking cessation among students. Whereas it is key for the success of all project, including SFC, very rare research has investigated attitude of high-level leaders of universities toward SFC, their perceived barriers and motivation to adopt it. To fill this gap, we interviewed deans of medical schools in France, where SFC are limited. In-depth individual interviews were conducted on 31 deans and two associate-deans (representing 31 out of 35 French medical schools). Questions rose knowledge of SFC, perception of this measure, self-role to play and other factors influencing implementation. We targeted medical schools because they train future prescribers of smoking cessation, and can act as a model for policy dissemination to other schools. The 23 hours of interviews were analyzed using thematic analysis with Nvivo14. Regarding diffusion in 2023, only one medical school had a SFC, six were implementing it, 23 had no SFC and one abandoned it. 28 held positive attitudes towards SFC, explained by its impact on health and the mission of medical schools. Most of them considered SFC feasible with resources and engagement of students. Identified barriers were competing priority, lack of funding and of support from users and risk of stigmatization of smokers. A majority of deans thought they had a role to play in initiating, promoting and moderating the policy. SFC are recommended by the WHO but there is important room for improvement for their diffusion in France. Yet, a majority of deans we interviewed appeared motivated to adopt it. Solutions to encourage them and overcome barriers must be found.

Key messages:
- Diffusion of SFC among medical schools remains limited in France.
- Deans's positive attitude towards SFC bring hope for a better diffusion of SFC among French universities.

Abstract citation ID: ckae144.1783
Promoting sexual health in schools: a systematic review of the European studies

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Background: Sexual ill-health causes a high health burden. There is, therefore, a need for more effective sexual health promotion interventions. Previous research has focused on preventive sexual health interventions and the limited evidence concerning school-based sexual health promotion interventions has not been synthesized. Hence, this study aimed to systematically review the current evidence on the effects of sexual health promotion interventions conducted in European schools.

Methods: A systematic review based on the JBI and PRISMA standards was performed, encompassing searches in seven databases to identify sexual health promotion interventions conducted in European schools between 2012 and 2022. Data coding was performed according to a predetermined protocol and a narrative synthesis of the included studies was performed, highlighting the collective results.

Results: The review included 17 records, reporting 16 individual studies conducted in 7 European countries. Of the 16 included studies, 13 had a quantitative research design, and three had a qualitative design. All qualitative studies described positive effects as experienced by the participants, and ten of the quantitative studies showed statistically significant positive effects on at least one of the outcomes of interest.

Conclusions: The findings indicate good evidence for the effectiveness of interventions with a health promotion approach, underscoring the importance of sexual health resources such as respect, communication skills, and attitudes. Most sexual health promotion intervention studies have focused on sexual health resource outcomes connected to attitudes and skills, whereas, e.g., sexual health literacy is less studied and can be recommended to be included in future research.

Key messages:
- The synthesized evidence sheds light on the lack of evaluated interventions employing holistic and positive, resource-focused sexual health promotion interventions targeting European adolescents.
- The included school-based sexual health promotion studies, although limited in number, show evidence of promising effects on sexual health outcomes among participants.

Abstract citation ID: ckae144.1784
Analysis of parents' needs regarding sexual and reproductive health issues of their children

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Background: Promoting sexual and reproductive health is a key intervention for young people's health and well-being. Studies have shown that young people have a need to be supported by a strong network and that parents are considered an important source of information. The aim of our work was to understand the needs and critical issues parents face when raising the topic of sexual and reproductive health with their children in order to strengthen their skills and provide the best tools to support young people.

Methods: A qualitative focus group research methodology was used; a sexual psychologist facilitated the meetings. Parents of children attending secondary schools in Udine (Italy) in the 2022/2023 school year were invited to participate in the project. The meetings were recorded and transcribed verbatim by two independent researchers. Following an inductive method, recurring themes were extrapolated to represent the main categories and more specific subcategories.

Results: 46 parents participated in the focus group; 76% of them had no experience with sexual and affective education. Parents felt that sex education was useful in providing accurate information, preventing risks and promoting respect and relationships with others;

however, there were concerns that the values taught were not consistent with those of the family. The topic was found to be difficult to discuss with children, both in terms of technical/scientific aspects and addressing issues such as gender identity and sexual orientation. Parents would like to understand what the right communication key is to discuss with their children in an atmosphere of trust.

Conclusions: Parents recognized the importance of the topic and saw the need to deepen some aspects, especially in terms of relationship and communication. The results of this work will be a useful starting point for the creation of ad hoc pathways aimed at parents to strengthen the relationship with their children.

Key messages:

- Parents want to overcome difficulties by finding the right key to communicate with their children.
- Supporting young people and their network to promote sexual and reproductive health is essential.

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Improving intersectoral working in schools: learning for the future from the COVID-19 pandemic

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Background: The COVID-19 pandemic highlighted the challenge for school staff to integrate protective health measures into their academic daily responsibilities. The aim of this abstract, within a wider study of safe school re-opening, is to analyse improvements proposed for intersectoral working in schools by health and education professionals, based on their experience of the pandemic.

Methods: In 2021, an online survey was conducted in 6 languages with education and health professionals, followed by optional online semi-structured interviews. These methods explored the: 1-effect of the pandemic on schools/pupils/teachers; 2-reorganisation of schools; 3-experience of implementing infection control measures in schools; 4-intersectoral working; 5-important resources for keeping schools open. Interviews were transcribed verbatim and translated into English where needed. A directed content analysis was undertaken of interview transcripts and free-text survey responses regarding intersectoral working perspectives.

Results: The results are based on a combined analysis of data from 2072 survey responses from health and education professionals from 73 countries and 32 follow-up interviews (18 education professionals and 14 health professionals from 25 countries). Five themes of improvement for the future were identified: create formal coordination between the two sectors to support intersectoral working; that the health sector provide clear information and guidelines; bring health staff into school (especially medical staff); communicate more across all stakeholders (community, parents, students); and a call for capacity-building among education professionals by the health sector.

Conclusions: From the experience of the COVID-19 pandemic, the public health sector should lead the development of collaborative structures, implementation strategies and activities to support intersectoral alliances in the school environment for everyday well-being, ready for future health crises.

Key messages:

- During the COVID-19 pandemic, many education and health professionals felt the need for more - and strengthened - collaboration in schools for future health crises.
- Public health professionals could take a leading role in this strengthening strategy, supporting intersectoral alliances and promoting capacity-building in order to improve well-being and resilience.

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Improving health workers' well-being in Cittadella Hospital (Province of Padua)

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Issue: A healthy workplace increases productivity, creativity and decreases absenteeism and turn-over. It also contributes to creating a more secure work environment with fewer risks of violence. In the past 3 years, the healthcare system has suffered the psychological, economic and social consequences of the COVID-19 pandemic. On the other hand, the healthcare staff reductions determine high levels of work related stress that are often unsustainable.

Description: In an effort to improve staff well-being, in the Hospital of Cittadella, which counts nearly 1,250 employees, a wide range of activities have been initiated. A questionnaire was submitted to the hospital's staff and the results showed that nearly 10% of workers had experienced physical symptomatology related to work. The most commonly experienced symptoms included: anxiety, nervousness, headache, stomach ache, excessive fatigue and insomnia. Participants also indicated feeling excessive mental fatigue and emotional overload at the end of their work shift.

Results: Psychomotor practice, held according to the Aucouturier method, is one of the projects intended especially for the staff operating in Intensive Care, Emergency and Pneumology Units. This method brings focus to controlled breathing, posture, muscle work and movement that help manage stress and fatigue. A Qigong course, which is an ancient Chinese practice designed to optimize the energy within the body reducing the stress levels and increasing general wellbeing, was held every two weeks for 5 months. And finally, Tibetan singing crystal bowls sessions consisted of monthly guided meditation sessions using the sounds of the crystal bowls.

Lessons: In conclusion, well-being and organizational performance are closely related to each other. It is crucial for any organization to encourage and maintain better physical and mental health of the healthcare staff as it directly affects productivity and consequently user's satisfaction of the services provided.

Key messages:

- Stress management is important amongst healthcare professionals as they are continuously exposed to different job stressors.
- Promoting self awareness and self care can help create a healthier work environment.

Abstract citation ID: ckae144.1787

Pediatric Allergy Management at ULSNE: Insights into Public Health Implications

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Introduction: Pediatric allergies present a complex challenge to public health systems, affecting both policy-making and clinical management. This study explores the management trends and challenges of pediatric allergies at the Unidade Local de Saúde do Nordeste (ULSNE) in Portugal, emphasizing its implications for refining healthcare practices over a seven-year period.

Methods: A retrospective review of medical records was performed, from children aged 0 to 18 who presented with allergic reactions at ULSNE's emergency services between 2017 and 2023. The analysis concentrated on demographics, allergen types, reaction severity, and the management strategies deployed.

Results: The analysis revealed a wide range of allergens, from food to insect stings, with medication being the most prevalent triggers. Significant findings include observing severe allergic reactions across all age groups, highlighting the need for acute emergency interventions. The data underscores a critical demand for early diagnosis and tailored-made management plans to efficiently handle the diverse severity of allergic reactions observed.

Conclusions: This study demonstrates the complexity of managing pediatric allergies within ULSNE's public health framework. Standardized, evidence-based management methods should be adopted to strengthen emergency response capabilities, as shown by the frequency of severe responses and the prevalence of various allergens. As an outcome, our results support a comprehensive, interdisciplinary strategy that includes medical personnel, educational institutions, and family involvement to create a supportive community that is supportive of both immediate care and long-term preventive measures. Subsequent efforts should give precedence to educational programs designed to increase consciousness and encourage preventive measures in community environments.

Key messages:

- A rapid response is essential for healthcare systems to have fast, effective strategies ready for children's severe allergic reactions.
- Emphasizes a collective approach involving healthcare workers, schools, and families to prevent and manage children's allergies, enhancing safety and awareness.

Abstract citation ID: ckae144.1788

Parental concerns about the risks associated with harmful industries for their children

Hannah Pitt

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Background: Harmful industries including tobacco, vaping, alcohol, and gambling are causing significant harms to communities, including children and young people. These industries try to resist reform by deflecting blame and shifting responsibility, often by suggesting that parents need to educate and protect their children. This study aimed to explore parents' current concerns and risks relating to these industries and their children, and their attitudes about responses to prevent harm.

Methods: Australian parents (n = 455) who had at least one child aged between 11-17 years were invited through a panel company to complete an online qualitative survey. Participants were asked about their concerns and risks relating to each product, if and what they discuss about these products with their children, and who was responsible for protecting children from these industries. Thematic analysis was used to analyse the data.

Results: Parents were concerned about the short- and long-term consequences of their children engaging in these products. Many parents tried to talk to their children about the risks, however also believed that their child was influenced by their peers, and messages they see on social media. Although parents recognised their own role in protecting their children from harmful industries, they thought that a collective approach was needed, which included greater regulations and more effective education.

Conclusions: Parents are trying their best to protect their children from the harms associated with tobacco, vaping, alcohol, and gambling. However, they feel as though they are unable to counter the range of ways that their children are exposed to and influenced by these industries. Governments need to listen to parents and implement comprehensive regulations restricting marketing practices and increase evidence-based education that focuses on the tactics and harmful practices of these industries.

Key messages:

- Harmful industries try to shift blame and put responsibility for protecting children onto parents. However, parents feel they are unable to counter the positive messages that their children see.
- Parents are concerned about the range of risks these products could have for their children and want to see a collective response to address this issue, including government policy intervention.

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Culturally-relevant physical activity for public health promotion: global evidence synthesis

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Background: The WHO has noted the importance of cultural insights for health. Culturally-relevant physical activity has a growing evidence base in many regions and specific populations, but the scope and scale for global health promotion is underexplored.

Methods: A multinational expert team used a critical literature review method to: (1) define culturally-relevant physical activity; (2) delineate relevant characteristics supporting inclusion in population-level health promotion and surveillance; and (3) provide agenda setting in research, policy, and practice from a global public health promotion perspective. The critical review method, which evaluates rather than summarizes literature, was chosen as the research evidence is complex, broad, and has not been synthesized previously from this perspective.

Results: Culturally-relevant physical activity was defined as practices that include physical activity based on a population's cultural customs. These can be Indigenous (e.g., hula, an Indigenous dance of Native Hawaiians) or regional (e.g., Shota (Shotë), an Albanian folk dance). Practices have shared characteristics that support multi-dimensional value for health, engagement, and healing. These include a collectivist, intergenerational component, passed from elders and shared forward with children as part of a community. Many have foundations in nature, a strength for health and wellbeing in green and blue spaces. Many include traditional art, clothing, accessories, and music with deep significance, including care for the tools and location of practice (e.g, drums, boats, land). Many practices would not be captured in harmonized public health surveillance systems despite their value. From this synthesis, research hypotheses were created and next steps proposed.

Conclusions: This evidence synthesis supports engagement, planning, uptake, policy, surveillance, and study of culturally-relevant physical activity for public health promotion locally and globally.

Key messages:

- An important strength of culturally-relevant physical activity is that it is context and population specific. However, this may hide the scope and scale of the existing evidence supporting this work.
- This evidence synthesis confirms how culturally-relevant physical activity is valuable globally across shared assets in research and practice, supporting next steps for public health promotion.

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Sporting clubs' perceptions about harmful industry sponsorship: Lessons from gambling research

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Background: Unlike tobacco, there are no restrictions relating to gambling sponsorship in Australian sports. While some sporting teams have voluntarily refused sponsorship deals with gambling companies and other harmful industries, many are still actively entering into or renewing such deals. There is limited understanding of why, despite widespread public concern, sporting organisations continue to engage in commercial partnerships with gambling companies and venues. This study aimed to qualitatively explore the ethical and related practical issues associated with gambling sponsorship.

Methods: In-depth interviews were held with 24 key decision makers in Australian community sporting organisations. Participants were asked questions relating to attitudes towards gambling, decisions about gambling sponsorship within their clubs, and issues relating to alternative sponsors and sponsorship disparities. Data was analysed using reflexive thematic analysis.

Results: Interviews revealed the difficulty for sporting organisations to avoid harmful industry sponsorship. When deciding to align with gambling companies, sporting organisations had to consider their own values and the reputational impact of such deals, and balance this with the financial viability of the sporting organisation. Despite sporting organisations relying heavily on sponsorship deals, some stated they would refuse gambling sponsorship for ethical reasons but recognised that sporting clubs in poorer financial positions may be more vulnerable to taking up gambling sponsorship.

Conclusions: As elite sporting organisations begin to move away from gambling sponsorship, gambling companies may target community sport. The authors consider practical strategies to protect communities from sponsorship from harmful industries.

Key messages:

- Sporting organisations navigate ethical dilemmas when considering gambling sponsorships, weighing values, reputation, and financial viability. Policy action is needed to protect local communities.
- Community sporting organisations face increased risk of gambling sponsorship as elite sporting clubs move away, prompting the need for protective strategies.

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A global research agenda for understanding the role of alcohol consumption in older women's lives

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Background: The alcohol industry has targeted women for profit and resisted global efforts to address the impact of alcohol on women's health. Scholars have called for research that moves beyond individual determinants of alcohol consumption in women, to investigate the range of social, environmental, and commercial factors that may contribute to women's alcohol attitudes, risk/benefit perceptions, and consumption behaviours. While qualitative research has explored younger and midlife women's perspectives on alcohol consumption, there is a notable lack of research focusing on older women.

Methods: This study investigated the factors that influence how older Australian women drinkers conceptualised the role of alcohol in their lives, using data collected from an online qualitative survey with $n = 144$ women aged 60-88 years. Qualitative responses were analysed using a 'Big Q' reflexive approach to thematic analysis.

Results: Participants perceived alcohol consumption as a socially accepted and normalised activity within Australian culture. For some women, alcohol served as a coping mechanism for life changes, such as retirement, and for managing stressful situations. Alcohol also formed part of daily routines and rituals, such as having wine with dinner. Participants had personal expectancies regarding 'responsible drinking', often aligning with alcohol industry messaging and resulting in a reduced perception of alcohol-related risks.

Conclusions: This research provides global lessons for future public health research examining the factors that may shape older women's alcohol consumption beliefs and behaviours. The authors consider the unique needs and potential vulnerabilities of older women drinkers, and how these may be potentially exploited by the alcohol industry. Further public health research and policy attention should focus on the impact of alcohol industry messaging on older women's knowledge, attitudes, and behaviours about alcohol risks and harms.

Key messages:

- This research highlights the role of alcohol in older women's lives, urging further public health research and policy attention to prevent alcohol-related harms in older women.
- Older women's perceptions of responsible alcohol consumption mirror the ambiguous messaging employed by the alcohol industry, highlighting the necessity for targeted interventions.

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Surfing a culturally-relevant physical activity: a new wave for health promotion

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Background: Surfing originated with Native Hawaiians prior to Western contact. It has since gained worldwide popularity, with an estimated 50 million surfers globally, and recently became an official Olympic sport. Associations have been reported between surfing and mental and physical health outcomes, greater community cohesion, and stronger intra-family relationships. Despite this evidence, surfing is deeply understudied in the context of health promotion.

Purpose: Surfing was analyzed from a mixed methods perspective to explore factors associated with lifetime participation and current engagement, including gender, race/ethnicity, chronic disease, social context, meaning, and average time of participation.

Methods: Hawai'i adult residents ($n = 1066$) completed an online or phone questionnaire. Modified Poisson regression models were fit for lifetime engagement and having a self-reported chronic disease, adjusting for primary race/ethnicity, age, gender, and education.

Results: Over their lifetime, 42% of respondents (50% men and 37% women) had participated in surfing. Engagement was highest during youth and young adulthood, and decreased with age, yet trends varied notably by race/ethnicity, gender, and generation. Lifetime surfing engagement was significantly related to lower likelihood of diabetes (aPR:0.72; 95%CI:0.56-0.92;p=0.009). Individuals who regularly participated in surfing typically did so with friends (78%) or family (61%); average surfing session duration was 209 minutes. Qualitative results revealed the relevance of surfing across levels of influence for health and wellbeing from physical fitness to community, culture, history and spirituality.

Conclusions: This work provides insights on the health promotion opportunities of surfing across the life-course and populations, including disease prevention and management. This study has implications for planning and policy locally and globally to achieve optimal community and planetary health.

Key messages:

- Surfing is not only a sport for elite athletes, but also an activity that can support community and individual health and wellbeing in many populations over the lifespan.
- Promotion of surfing and public ocean access can support multi-dimensional influences for wellbeing and should be a focus of cross sector collaborations for optimal community and planetary health.

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Population-based physical activity promotion with a focus on health equity: evidence challenges

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Issue: Physical activity (PA) approaches that target the entire population hold great promise for public health particularly in terms of health equity due to their broad reach. During the process of developing national recommendations for PA and PA promotion in Germany, followed by a partial update, it became evident that there is limited evidence regarding population-based PA interventions with a focus on health equity. Our objective was to present an overview of the underlying reasons for this scarcity of evidence.

Methods: The methodology used in the development of the German recommendations to identify evidence for population-based health equity interventions was applied. Five scientific databases were searched for reviews published between 2015-2021. References of the included reviews were checked for additional reviews. Publications without any focus on health equity were not considered. The identified evidence was summarized narratively, followed by a description of existing challenges in evaluating.

Results: Our search yielded 4,411 reviews, of which 79 met the inclusion criteria but 75 were excluded because approaches did not focus on the whole population, or did not address health equity. Two reviews were found in the search for gray literature. Thus, the result is a total of 6 articles. None of these reviews reported the application of a theory. The consideration of quality criteria used before, during and after the practical implementation of interventions is not common. The complexity of population-based approaches proved to be a challenge.

Conclusions: Overall, there is a need for more emphasis on health equity in the implementation and evaluation of population-based PA approaches. The consideration of a theoretical underpinning of such complex approaches in complex systems and the application of standardised quality criteria are an important prerequisite for the generation of evidence.

Key messages:

- There is little evidence of population-based PA approaches aimed at health equity.
- A standardized and comprehensive evaluation assessment that is accepted by all public health stakeholders is needed.

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Characteristics of users of oral nicotine products according to smoking status in Denmark

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Background: Oral nicotine products e.g., snus, chewing tobacco, and tobacco-free nicotine pouches gain increasing popularity. The aim of the study was to estimate the prevalence of use of oral nicotine products in the Capital Region of Denmark in 2021, to describe associations with socio-demographic characteristics and to explore if smoking status moderated these associations.

Methods: The study was based on the Danish Capital Region Health Survey 2021 including 56,245 persons aged ≥16 years old (response rate 54.9%) which included self-reported information on use of oral nicotine products and smoking status. Information on socio-demographic characteristics were assessed in national registries. Descriptive analyses and multivariate logistic regression models including interaction terms with smoking status and weighted for survey-sampling and non-response were performed.

Results: In total, 3.5% used oral nicotine products. Men showed higher odds of using oral nicotine products compared with woman (OR = 3.70) while there were no associations with education and occupational affiliation when adjusted for sex and age. The associations with age and place of residence were moderated by smoking status. Among smoking participants, young persons aged 16-19 years showed the strongest association with use of oral nicotine products (sex-adjusted OR = 21.71) while persons aged 20-24 years showed the strongest association in non-smoking participants (OR = 11.08).

Conclusions: Especially men and young age were strongly associated with use of oral nicotine products. For age, the association was moderated by smoking status. Interventions should address these high-risk groups and pay attention to smoking status.

Key messages:

- Sex and age play a siginificant role in use of oral nicotine products.
- Interventions and public health campagins should adress high-risk groups

Abstract citation ID: ckae144.1795
Promoting active ageing: The positive impact of older people's participation in Urban Gardens

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Background: The socio-health and economic consequences of the progressive population ageing constitute a global challenge for public health, which is committed to the promotion of active and healthy ageing as a strategy to mitigate these consequences. The European project U-GARDEN has evaluated from a comprehensive and innovative approach the impact of urban gardens on the promotion of active ageing through the participation of older people in urban agriculture.

Methods: A qualitative methodology was designed and implemented in order to analyse the information provided by people over 65 years of age, who actively participated in urban gardens, from a personal and subjective perspective through semi-structured in-depth interviews. The benefits obtained from participation in urban gardens were analysed, considering the different dimensions that make up the paradigm of active ageing: physical, psychological, economic, health, behavioural and personal impact. A total of 20 interviews were used to reach the saturation point.

Results: Qualitative analysis showed multiple benefits of active and healthy aging. Participants reported increased physical activity and psychosocial improvements such as higher personal satisfaction, reduced stress, and enhanced self-esteem, strengthening community connections and fostering a sense of belonging. Economically, they reported savings on food costs and increased food security. Overall, respondents noted improvements in general health and quality of life, highlighting urban gardening as valuable for well-being and social-economic integration.

Conclusions: The findings reported in the framework of the U-GARDEN project support the importance of implementing innovative strategies that encourage participation in urban gardens as a tool to improve the overall wellbeing and health of older people, effectively addressing some of the main challenges of ageing such as loneliness unwanted frailty and disability.

Key messages:

- The U-GARDEN project is an example of good practice in the use of urban gardens as a platform for promoting active and healthy ageing.
- The promotion of green spaces through the establishment of urban gardens should be considered by health and political authorities for their ability to promote the general well-being of society.

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Factors associated with use of active transport in users of HEVS Program of Ministry of Sports

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Background: Sedentary behavior and physical inactivity are associated with an increased risk of chronic disease and mortality. Studies have shown the benefits of active transport to reduce NCDs. In Colombia, studies have been developed to determine the factors associated with the use of active transport, in cities such as Bogota but not nationally, therefore, this study seeks to determine the factors associated with the use of active transport in users of the National Program of Habits and Healthy Lifestyle (HEVS) led by the Ministry of Sport of Colombia in partnership with municipal sports and departmental.

Methods: The research presented a quantitative approach on a retrospective basis. The population consisted of 75,086 users of the HEVS program in 2019, over 18 years old (average = 44.04 and D.E. = 15.75 years old) of which 87.7% were women. For the statistical analysis a forward logistic regression model was carried out, with the dependent variable: active transport use (0 = no active transport use and 1 = active transport use).

Results: 41.6% of 75086 participants reported using active transport, corresponding to 31,211. Regular users, who attend physical activity programs 3 times a week, report a higher probability of using active transport OR = 1.38 (95% CI 1.31 to 1.45), compared to those who attend less than 3 times a week. Being female represents a greater probability of using active transport compared to men, OR = 1.39 (95% CI 1.32 to 1.47), those who add salt to food are also more likely to use active transport than those who do not add, OR = 2.04 (95% CI 1.92 to 2.26) and in terms of physical activity, those who meet the minimum recommendations in minutes a week use active transport more likely than those who do not comply, OR = 1.49 (95% CI 1.4 to 1.6).

Conclusions: Using active transport is associated with greater compliance with weekly physical activity recommendations. Women are more likely to use active transport just like people who add salt to food.

Key messages:

- In order to reduce NCDs in the Colombian population, walking or cycling is proposed because it is associated with a greater probability of compliance with weekly physical activity recommendations.
- Formulating public policies in Colombia that encourage the use of active transport would contribute to meeting weekly physical activity requirements.

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Co-Creating Tailored Solutions to Combat Sedentary Behaviour: Insights from Scottish SMEs

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Background: Prolonged sedentary behaviour (SB) poses health risks for office workers, especially in small-to-medium-sized enterprises (SMEs) often overlooked by current interventions. This abstract aims to report and examine solutions developed through co-creation for SB in SMEs.

Methods: Three Scottish SMEs, a construction company (n = 150) and two charities (n = 100; n = 30), participated in a co-creation process to create SME-specific actions on SB. Each formed an action group of employees (n = 9-12) as co-creators. The process consisted of between 6-8 workshops (each 1.5h) depending on the company, with workshops improved during the process based on formative reflection from co-creators. The co-creation workshops, facilitated by two researchers, initially involved jointly mapping the company's current situation and building knowledge and awareness of SB. Further workshops focused on action planning, including brainstorming, feasibility, piloting, and final action(s) development. Following the co-creation of actions, researchers identified the Behaviour Change Techniques (BCTs) underlying the developed actions.

Results: Each company created a set of actions unique to them, e.g. standing desk promotion, a games room, and innovative meeting strategies. Regarding the BCTs, all companies included adding objects to the environment, physical restructuring, prompts or cues, and addressing health or social and environmental consequences. Additionally, they all incorporated 'step challenges' with behaviour self-monitoring and feedback techniques. Two companies offered incentives or rewards; one emphasized role modelling, and another included social support.

Conclusions: The three companies created tailored actions through the co-creation process. While there were some commonalities, the differences in actions and BCTs among companies underscore the necessity for solutions tailored to the organizational context and the importance of involving employees in creating solutions.

Key messages:

- Co-created actions to combat SB used diverse strategies, emphasising a multifaceted approach to address workplace SB.

- Variability among SMEs' co-created actions underscores the importance of stakeholder involvement to tailor solutions to organisational contexts.

Abstract citation ID: ckae144.1798
The Workplace Health Promotion project in an Italian manufacturing

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Introduction: The Workplace Health Promotion (WHP) program aims to improve employee's health and well-being in the workplace by intervening in lifestyles. The objective of our study was to assess the impact of the WHP promoted by the Local Health Authority Tuscany South-East at a manufacturing.

Methods: The program was set at the STOSA Company in Radicofani (Siena, Italy) between 31 May 2017 to 31 December 2021, with a one-year interruption due to the COVID-19 pandemic. Based on an assessment of the workers' health status, we identified nutrition and fighting smoking as areas of intervention. The WHP project was integrated into the company policy and targeted all staff. Evaluation of interventions was conducted using an anonymous paper questionnaire (Regional Decree no. 1565, Annex 3) administered in three moments: at the beginning of the project (T0), one year later (T1), and at the end (T2). We conducted a descriptive and inferential analysis (chi-square test) with R.

Results: We collected 131 (T0), 136 (T1), and 123 (T2) responses. The cohort is composed entirely of males (T0 M:F 122:8, T1 130:6, T2 109:14). The median age is 40 years (SD 8.24 (T2)). There is a statistically significant difference in the perception of health status by education ($p<.001$), type of work ($p<.001$), smoking habit ($p<.001$), and the change in smoking habit ($p<.001$). The whole sample positively evaluated the interventions on nutrition and fighting to smoke. Moreover, the entire sample reported improvements in their diet since the beginning of the project.

Conclusions: The COVID-19 pandemic caused difficulties in carrying out the project and possible changes in workers' lifestyles. However, positive outcomes were observed in the targeted areas. The company has evaluated positively the WHP's project and decided to maintain the good practices acquired.

Key messages:
- The workplace represents a privileged setting to promote healthy lifestyles and prevent non-communicable diseases.
- Collaborations between health authorities and other sectors are strategic to reach the general population.

Abstract citation ID: ckae144.1799
Social prescribing for healthy ageing: insights from older people referral and uptake in Portugal

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The population ageing presents multifaceted challenges for health systems, with implications for healthcare delivery and health and well-being outcomes. Innovative integrated-care approaches are needed to promote healthy aging and the quality of life of older people. Social Prescribing (SP) has emerged as a promising strategy to address the complex health and social needs of populations, including those older, offering non-medical interventions that encompass social, cultural, and community-based activities. SP has been implemented in Portugal since 2018 and currently target different subgroups, including elderly. This study aims to examine referral and uptake of older people to SP in Portugal. This cross-sectional study analysed sociodemographic, health condition, referral and uptake-related data from older patients ($\geq$65 years) engaged in SP, collected through a survey and registries at primary healthcare units in Lisbon between 2018-2023. Of the 1060 patients referred to SP, 43.9% ($n = 465$) were aged 65 years or older. Within this age group, 38.1% were 71-80 years old and 36.1% were 81-90 years old; 67.5% were female. Around 48% were referred to SP for social isolation, 40% for social and financial support, and 32.5% for functional dependency. Two thirds had two or more chronic conditions, with cardiovascular disease (59,1%), mental health disorders (29,2%), and obesity (27,1%) being the most frequent. The SP consultations uptake rate was 59.1%, and patients were referred to a range of activities provided by third-sector organisations, as psychosocial support, home care, senior university classes, arts activities, and support in medicine management. The elderly population accounts for a large proportion of SP referrals. Further efforts are needed to identify the factors that influence patients' acceptability and adherence and to promote the sustainability of SP and the well-being of the population.

Key messages:
- Older people referred to SP initiative in Portugal have complex health-social needs, which reinforces the relevance of adopting a holistic centred-care approach to respond to the aging challenges.
- Through SP older people have been integrated in community-based activities that promote their health and wellbeing, thus it is needed to develop tailored strategies to improve patient uptake.

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Culture on organ and tissue donation in the community of Medical School, Veracruz Region

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Introduction: Organ donation is a life-saving activity, yet there is a disparity between the high number of recipients and the minimal number of donors.

Objetives: To determine the level of organ and tissue donation culture for transplant purposes among faculty members and undergraduate medical interns at a Medical School

Methods: A cross-sectional and prospective study was conducted from January 2023 to 2024, including faculty members and undergraduate medical interns from the Medical School at the University of Veracruz - Veracruz Region. The main study variable was the culture of organ and tissue donation for transplant purposes, quantified through three dimensions: knowledge, attitude, and training, assessed using a validated instrument (Cronbach's alpha: 0.6). The entire described population was included, and they were approached in different areas to invite them to participate in this research.

Results: 225 subjects (55 faculty members) agreed to participate. 97% of participants expressed support for organ donation. Among those not in favor of donation, 33% feared receiving poor medical care as donors, and 17% viewed donation as a business. Organ donation culture was deemed sufficient in 10.98% and outstanding in 71.76% of participants. The most common level of knowledge was outstanding (52%), 70% of the studied population showed a 'very positive' attitude towards organ and tissue donation. Training history was evaluated as an associated factor with knowledge about organ donation (OR/CI95%), identifying an association between lack of training and levels of sufficient knowledge (2.5/1.2-4.9) and outstanding knowledge (0.3/0.1-0.7), as well as with sufficient culture (9.6/1.2-73.0) and outstanding culture (0.1/0.04-0.4) ($p < 0.05$)

Conclusions: It is imperative to strengthen training programs for faculty and undergraduate personnel, as quality training enhances knowledge and culture within this essential area of healthcare personnel formation.

Key messages:

- University professors should have accurate information on organ donation and sensitize future physicians on the subject, as this could be a crucial step for future interactions in favor of donation.
- It is necessary to eradicate misinformation about organ donation in teachers and students of medical schools, since they are the basis for education and awareness on this issue in the population.

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Sexual health education in Italian schools: preliminary results of EduForIST3 national project

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Background: School-based comprehensive sexuality education (CSE) is the best approach to disseminate scientific evidence and promote healthier sexual behaviours among young people. However, in Italy, CSE is not included in schools curricula. This study, funded by the Ministry of Health, seeks to investigate information uptake and attitudes towards sexuality among adolescents included in a pilot CSE intervention in 6 Italian regions, from December 2023 to June 2024.

Methods: A 10-hours education intervention was implemented in a convenient sample of 26 upper and lower secondary schools (U/LSS), covering topics such as changes in adolescence, relationships and consent, sexual identity, sexually transmitted infections (STIs), contraception and sexual health services. Students' evaluation comprised pre/post tests assessing knowledge, attitudes towards sexuality and satisfaction. A Solomon 4-group design study was used to compare intervention and control classes. A follow-up test will be conducted 4-6 months post-intervention.

Results: Preliminary analysis of available data as of 30 April, 510 pre-tests and 266 post-tests, showed incremented correct answers in all items. A significant increase ($p<.05$) was found in 12/21 items for USS and in 9/19 items for LSS, especially in the domain STIs symptoms and prevention, among those mostly appreciated. Over 90% of students considered schools as suitable setting to receive CSE, preferably by external experts. Ongoing qualitative and long-term analysis will provide further insights of the overall impact of the activity.

Conclusions: The pilot CSE intervention increased the knowledge and attitudes of the students involved. Additional insights will be available after study completion. Findings from this study will contribute to evaluate the effects of CSE initiatives on sexual health knowledge and attitudes among Italian secondary schools students, as well as the effectiveness of such programs in fostering healthier behaviours.

Key messages:

- Providing evidence-based, relevant information and education on sexual health to young people in secondary schools increases their knowledge and improves attitudes towards sexuality.
- CSE should be included in Italian school curricula in order to promote an incremental uptake of information and to improve young people's sexual health.

Abstract citation ID: ckae144.1802
Developing an Evidence-Based Primary Cancer Prevention Repository: insights from the PIECES project

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Introduction: Up to 40% of cancer cases could be avoided through effective primary prevention. However, cancer prevention tends to be fragmented across Europe, leading to geographical health differences. The dissemination and scale-up of effective primary cancer prevention interventions may address this. Although effective cancer prevention programs exist, finding them and their materials (especially regarding implementation) can be challenging. Repositories of evidence-based interventions provide insight into "what is out there" and can support dissemination within and across national borders. The PIECES project aims to develop and disseminate a repository of evidence-based primary cancer prevention programs adaptable to European contexts, with information to aid adaptation and implementation across countries.

Methods: The development of the PIECES repository has been informed by established repositories such as NCI's Evidence-Based Cancer Control Programs. The project team developed a scoring sheet with a selection of items that could be included in the repository. All participants rated each item on relevance and applicability and provided comments and suggestions. A final framework, including a set of minimal requirement items, was agreed upon during three online consensus building meetings.

Results: We created a repository of evidence-based primary cancer prevention interventions targeting modifiable risk factors suitable for implementation in European healthcare settings. This 22-item repository provides information about an intervention's logic model, implementation practices, and appraisal of published evidence of effectiveness.

Conclusions: This repository is innovative as it includes practical information and tools to facilitate implementation. While initially built to serve the PIECES project, the repository is designed to be a valuable tool for European policymakers, researchers, and implementers. Lessons learned from this process will inform future developers.

Key messages:

- A comprehensive cancer prevention intervention repository avoids "reinventing the wheel" and allows for more efficient use of existing interventions by building upon the best available evidence.

- The ongoing efforts of the PIECES project represent a significant contribution to reduce cancer prevention disparities and to facilitate the adoption of evidence-based interventions in Europe.

Abstract citation ID: ckae144.1803
Visualizing patterns of factors influencing school health promotion implementation

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Background: The school setting offers a special opportunity for health-promotion (HP) interventions, as children spend 1/3 of their daily time there. Yet, implementing HP remains challenging due to the complexity of schools and unique contextual factors influencing implementation. While common influencing factors have been described, the aim of this study is to explore how influencing factors co-occur within and vary across schools, forming potential patterns of barriers and facilitators.

Methods: As part of a school HP program involving 258 institutions across Germany, nine schools were selected using maximum heterogeneity sampling for in-depth interviews on influencing factors by employing the Consolidated Framework for Implementation Research (CFIR). The interviews were transcribed verbatim and analyzed deductively using the CFIR as category system. Identified influencing factors were quantified [-5; +5] whether being a major barrier (-5) or a major facilitator (+5). To visualize potential patterns, a matrix heat map (MHM) displaying all influencing factors across all schools was created.

Preliminary results: Influencing factors in almost all CFIR categories were identified and all schools reported factors as barriers, such as parental engagement or (in)sufficient time. From the MHM, patterns of influencing factors, co-occurring within and differing across schools, emerged. For instance, some schools found the physical environment to be a barrier, while others considered it a facilitator, often in conjunction with financing as another facilitator.

Conclusions: Qualitative analysis and visualization of results with a MHM served as a way to navigate the complexity of the school setting and to highlight patterns of factors influencing implementation. Understanding these patterns can enhance tailoring implementation strategies, thereby improve implementation of school HP interventions and, ultimately, foster child health outcomes.

Key messages:
- Influencing factors for school HP implementation manifest in varied patterns of barriers and facilitators across schools, which has implications for tailoring implementation strategies.
- Using qualitative analysis guided by the CFIR and a MHM for visualization can aid in navigating the complexity of schools.

Abstract citation ID: ckae144.1804
Burnout and perceived stress among health visitors in Hungary

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Background: In Hungary, the health visitors are responsible for the health promotion of families and communities. However, as a consequence of the structural reorganization of the health visitors service and the emotionally situations (e.g. the war in a neighboring country, the economic crisis) that have arisen, there has been an increased prevalence of chronic stress, burnout and career abandonment among health visitors. The objective of the cross-sectional study was to ascertain the prevalence of burnout among health visitors and to examine the relationship between burnout and job stress.

Methods: The data was collected via an online questionnaire tool. In addition to questions pertaining to sociodemographic data, the questionnaire employed the Maslach Burnout Inventory (MBI Human Services Survey) and the Perceived Stress Scale (PSS). Hypotheses were tested using analysis of variance (ANOVA), Kruskal-Wallis test, Dunett test. The source population of the study was health visitors. A total of 178 health visitors constituted the target population.

Results: The average age of the study participants was 45.2 years. It can be observed that health visitors who perceive less appreciation from their colleagues, employers and caregivers are more likely to experience higher levels of burnout and stress ($p < 0.05$). The lowest levels of stress were observed in school health visitors, while the highest levels were seen in health visitors covering villages ($p < 0.05$). Those who remained in the field due to a passion for working with families and children, a sense of vocation, and a desire to help others exhibited lower levels of burnout ($p < 0.05$). The high number of clients served by health visitors was found to increase burnout and stress levels ($p < 0.05$).

Conclusions: The findings of this research will assist in the comprehension of the phenomenon of burnout among health visitors, thereby enabling the development of more efficacious methods for the treatment and prevention.

Key messages:
- Preventing burnout among health visitors is a priority, as it affects their work and their relationship with the families they care for in the short and long term.
- Health visitors frequently encounter families in crisis during the course of their work, necessitating regular supervision to maintain their mental health.

Abstract citation ID: ckae144.1805
Hindering factors of pneumococcal vaccination: a survey among an Italian university hospital staff

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Background: The pneumococcal vaccination targets individuals aged over 65 and people with chronic conditions. Data on vaccination coverage among healthcare workers are generally lacking. Our goal is to assess the knowledge and behaviors of a sample of Italian healthcare workers and administrative staff to understand barriers to pneumococcal vaccination like vaccine hesitancy.

Methods: From February to May 2024, an anonymous online validated questionnaire was administered to a sample of Italian healthcare workers and administrative staff at the Policlinico Universitario A. Gemelli in Rome. Descriptive and inferential statistical analyses are performed using the STATA 16 software.

Results: 1042 participants completed the questionnaire. Preliminary descriptive analysis shows that the majority are women (69.4%). 20.5% of respondents are medical doctors, 23.3% administrative staff, 39.6% nurses or obstetricians, 1.6% rehabilitative healthcare professionals, 5.7% technical healthcare professionals and 4.1% preventive healthcare professionals. 27.8% among healthcare workers and 28.11% among administrative staff suffer from chronic illnesses. 27.6% of respondents are unaware of the health effects caused by acquiring pneumococcal infection. Although initial inferential analyses seem to show a generally positive trend regarding vaccine awareness, some categories appear to demonstrate a potential underestimation of the importance of vaccination against the spread of infectious diseases. It even appears that some of the interviewees consider the complications of the disease less serious than the risk of severe adverse effects of vaccines.

Conclusions: Although further analysis is needed, preliminary results seem to highlight some knowledge gap that could lead to a certain degree of vaccine hesitancy among partecipants. In this case, it would be crucial to promote educational activities that increase hospital staff's vaccine adhesion in order to improve their health and the patients'one.

Key messages:

- A pneumococcal vaccine hesitancy rate may exists among an Italian university hospital staff.
- It is crucial to boost healthcare workers' awareness and knowledge about pneumococcal vaccination benefits.

Abstract citation ID: ckae144.1806
Sexual health communication targeting adolescents in public service Media: the case of Finland

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Background: Given the substantial time adolescents spend online, sexual health promotion and education through online media constitute a promising public health action. However, monitoring of sexual health-related online media content is warranted, and considering the scope and aims of public service media, this forum can be regarded as being of particular interest. This study aimed to analyze how and to what extent sexuality and sexual health-related content targeting adolescents is communicated and portrayed in public service media in Finland, with a particular interest in health promotion perspectives and participatory practices.

Methods: Based on predetermined inclusion criteria and guidance from professionals at the Finnish public service company Yle, podcasts were specified as the media format of interest. Three Finnish podcasts (a total of 66 episodes) produced during the years 2021-2023, targeting young people and focusing on sexual health, were included in this study and subject to critical content analysis.

Results: Most podcast episodes focused equally on the sexual health resource and risk perspectives, while a third emphasized a resource perspective. Concerning participatory practices, adolescents participate in only five episodes in total, and most often, the podcast hosts' own experiences are at the center of the episodes.

Conclusions: The findings highlight how sexuality and sexual health content is communicated in public service media podcasts targeting adolescents in Finland, as well as how the communication aligns with health education and promotion guidelines. The study sheds light on participatory practices, emphasizing a lack of stakeholder involvement, i.e., dialogue between podcast hosts and listeners. Results carry implications for developing sexual health promotion through public service media targeting young people in Finland and other European countries alike.

Key messages:

- The findings highlight how sexuality and sexual health content is portrayed in public service media podcasts in Finland and how the communication aligns with health promotion values and principles.
- The findings show a lack of participatory practices in Finnish public service media podcasts targeting adolescent sexual health - a health promotion concern also pertinent to other countries.

Abstract citation ID: ckae144.1807
Barriers and facilitators of implementing a health literacy-based intervention in Portugal

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Background: Despite the effectiveness of cervical cancer screening (CCS) in reducing mortality rates, disparities persist in access to screening among women with low health literacy, often termed 'hard-to-reach women'. Health literacy-based interventions can help promote screening uptake. Based on a health literacy-based intervention for CCS implemented in Lisbon with the support of community workers, this study explores barriers and facilitators of the implementation process as perceived by these actors.

Methods: The intervention consisted of educational sessions on cervical cancer and CCS aimed at 246 women, implemented in community settings in 2023-2024. Within a mixed-methods approach, a pre-and post-intervention survey was applied to assess willingness to screen, and two focus groups were conducted with 10 community workers on their implementation experiences. Descriptive analysis and content analysis were performed where appropriate.

Results: Of the 665 women invited, 37% were enrolled in the sessions; 91% completed the follow-up. Community workers valued the informative content as adequate to raise awareness. Implementation facilitators included women's trust in collaborating organisations and a complement of peer recruitment. Challenges included the additional workload of community workers, finding creative strategies to engage women, scheduling the sessions that best suited women's time demands, and limited spaces to accommodate several group sessions. Proposed solutions to overcome barriers included increasing the time availability of community workers to support participants' recruitment and session delivery, conducting itinerant and open sessions, and integrating the sessions within the organisation's health-promoting activities.

Conclusions: Health literacy-based interventions are helpful in raising CCS awareness. Tailored interventions sensitive to context demands may contribute to successful actions.

Key messages:

- Health literacy interventions can be key to promoting cervical cancer screening among hard-to-reach women.
- Tailored community-based interventions may help address barriers to cervical cancer screening.

Abstract citation ID: ckae144.1808
Vaccination campaign implementation in Madagascar: a Dynamic Sustainability Framework approach

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Background: The COVID-19 pandemic has highlighted the need for equitable and timely access to vaccination. Limited evidence is available on how to implement vaccination campaigns (VCs) that are sustainable and responsive to changes in real-world health policy and practice contexts. We present lessons learned from the implementation of a COVID-19 VC in the Boeny region of Madagascar.
Methods: Informed by the Dynamic Sustainability Framework, VC implementation was continuously reviewed during multisectoral stakeholder feedback rounds, key informant interviews, and problem-solving meetings to identify and put key adaptations throughout the campaign process into practice. Outcome indicators include pre- and post-VC vaccine hesitancy and trends in vaccine doses deployed were analyzed using generalized linear models.
Results: Key adaptations of the implementation strategy included community-led awareness-raising and outreach activities also in remote areas, strengthening VC through the training of 340 staff, and addressing gaps identified in the cold chain, waste management, vaccine transportation, and IT equipment. Overall, 24888 COVID-19 vaccines were administered in six months. Changes in campaign strategy increased the number of doses administered by 8% (RR = 1.08; CI 95%: 1.01; 1.15) per week. No changes in vaccine hesitancy post-VC were observed in an unvaccinated population ($\Delta = 0.02$, CI 95%: -0.04; 0.08).
Conclusions: Collaborative and dynamic multi-sectoral VC strategies that combine healthcare-based approaches with pro-active outreach and community-led awareness-raising activities are essential in increasing vaccine uptake in limited-resource settings. Our findings show that despite boosting vaccination coverage, such initiatives may not have an impact on COVID-19 vaccine hesitancy at the community level

Key messages:

- Multisectoral stakeholder collaboration and engagement are key to successful vaccination campaign implementation.
- A Dynamic Sustainability Framework approach can be effective in ensuring a continuous fit between campaign and its setting.

Abstract citation ID: ckae144.1809

Vaccines are coming closer to you: the experience of the Corporate Healthcare Company (ASL) Rome 4

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Issue: The post-Covid period is characterised by vaccine fatigue and declining coverage, especially among children. Access to vaccination for adults and the elderly, outside of the influenza vaccination campaign, has historically been very low due to limited awareness of opportunities and difficulties in accessing vaccination centres.
Description of the problem: ASL Roma 4 is characterised by a dispersed population across a large territory of 28 municipalities, many of which are small and predominantly populated by elderly people. In order to reach this population, 'proximity clinics' were opened in 6 small municipalities in 2023, where the vaccination service offers a wide range of vaccines every 1-2 months. Since June 2023, two mobile vaccination units have also been used to extend the reach of vaccination activities.
Results: In 2023, vaccination activities at nearby clinics reached 343 people (166 males and 177 females), with a total of 473 vaccines administered. More than 70% of those vaccinated were over 65 years of age, including 47% over 80 years of age. Between September and December 2023, vaccination vans were deployed in high-traffic areas such as markets, supermarkets, squares, or in locations with hard-to-reach populations such as migrant reception centres, volunteer centres, and senior centres. As a result, 1183 people (585 men and 557 women) with an average age of 49 years were reached and 1699 vaccines were administered. 62% were over 65, 37% over 80, 41 were homeless and 87 were migrants. 56% of the vaccines administered were influenza and covid, but all types were provided.
Lessons: Although this method of vaccine delivery is still being implemented, its value lies mainly in vaccinating people who would not have voluntarily sought vaccination services, demonstrating the need to bring prevention as close to the user as possible.

Key messages:

- The post-Covid period is characterised by vaccine fatigue and declining coverage.
- It is necessary to bring vaccination prevention as close to the user as possible.

Abstract citation ID: ckae144.1810

The Icehearts Europe Implementation Guide to promote a mentoring programme for youth mental health

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Issue/problem: In Europe, 9 million young people (10-19) suffer from mental disorders and 70% of children and adolescents with mental health problems do not receive appropriate interventions at a sufficiently early age. Moreover, during the Covid-19 pandemic a high prevalence of depressive symptoms, anxiety and sleep disorders was observed in the population aged 4-19 years. The Icehearts Europe project (funding: EU4Health 2022 Programme) aims to disseminate at EU level a long-term programme for supporting health and wellbeing of disadvantaged children and adolescents. It is inspired by the Finnish best practice Icehearts, a 12-year long mentoring programme. Five pilot countries (Italy, Denmark, Spain, Slovenia, Estonia) will test the model to raise European awareness of how it works and to get more countries and organisations involved.
Description of the problem: Icehearts Europe is a preventive mentoring programme based on team sports, recreation and school support activities, with a child-centred community approach. To facilitate its implementation, a practical guide has been developed for grassroots sport and social promotion organisations to help them implement the model in their own contexts. The guide is the result of both a multisectoral cooperation between grassroots sport, health, universities, NGOs, and qualitative study activities (bibliographic research, study visit, group work, analysis of the situation and needs of local contexts).
Results: From February 2024 the Icehearts Europe Implementation Guide is available in six languages at https://www.icehearts.eu/resources. It is now being adapted by the Icehearts Europe partners into an online training programme for managers.
Lessons: The guide has incorporated lessons learnt from the Finnish model, considered as an evidence-based approach. It contains several operational tools to implement Icehearts Europe and

can be adopted using different approaches: there is no one-size-fits-all solution.

Key messages:

- Developed as a support to the Icehearts Europe piloting partners and as a basis for a fully-fledged online training programme for future Icehearts Europe managers.
- To facilitate the implementation of early interventions to promote health and wellbeing of children and adolescents and enable them to cope with disadvantaged conditions.

Abstract citation ID: ckae144.1811
Health promotion interventions for children and adolescents using e-health: a systematic review

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Background: The utilization of e-health in healthcare interventions has become increasingly prevalent due to its cost-effectiveness. Nevertheless, there is a paucity of evidence regarding the use of e-health in children, as the majority of e-health interventions are focused on adults. This study aimed to identify the components and effects of e-health intervention for the promotion of children's health and to suggest strategies for their implementation.

Methods: A systematic review was conducted in accordance with the PRISMA guidelines. A literature review of relevant studies published between January 2013 and November 2023 was conducted. A search of databases including PubMed, EMBASE, CINAHL, MEDLINE, and Cochrane Review Library was conducted using a combination of medical subject headings (MeSH) and keywords. A qualitative appraisal of the studies was conducted using the revised Cochrane risk-of-bias tool for randomized trials (RoB 2).

Results: Sixteen studies were selected. Most studies showed good methodological quality. The majority of studies ($n = 15$) focused on improving children's physical health, while only one study focused on mental health. There were a variety of components to the intervention, including internet education, web-based home-exercise, serious games, mobile apps, email counseling, and active video games, and only one type of intervention was provided, or a combination with additional methods such as phone calls and counseling. A review of the literature indicates that e-health interventions have been effective in increasing children's physical activity, reducing weight, relieving stress, and reducing depression.

Conclusions: This study identified the effectiveness of e-health interventions for improving children's physical and mental health. The use of e-health to promote children's health should be actively developed and implemented in a variety of clinical and community settings.

Key messages:

- E-health interventions have been demonstrated to be an effective means of improving the physical and mental health of children and adolescents.
- It is recommended that health promotion interventions utilizing e-health be developed and tested in a variety of communities and settings for children and adolescents.

Abstract citation ID: ckae144.1812
School teachers' perceptions of intersectoral working with health in the COVID-19 pandemic

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Background: The COVID-19 pandemic highlighted the challenge for teachers to integrate protective health measures into their academic daily responsibilities. The aim of this abstract is to analyse how school teachers' views on intersectoral collaboration with health professionals during COVID-19 vary by country, seeking insights for future directions.

Methods: In 2021, an online survey was conducted in 6 languages with education and health professionals, followed by optional online semi-structured interviews. We explored the: 1-effect of the pandemic on schools/pupils/teachers; 2-reorganisation of schools; 3-experience of implementing infection control measures in schools; 4-intersectoral working; 5-important resources for keeping schools open. Interviews were transcribed verbatim and translated into English. Analysis of a survey question seeking professionals' rating of intersectoral working led to a directed content analysis of transcripts and free-text survey responses regarding intersectoral working experiences.

Results: Data were analysed from 1046 school teacher survey responses from 6 countries/territories and 21 follow-up interviews. Ratings varied considerably across countries. A large majority of teachers in Taipei (83%) reported excellent or good collaboration with health professionals, about half in China (53%) and Portugal (51%), and far fewer in Brazil (38%), Morocco (29%) and France (15%). Taipei respondents cited the key role of school nurses as a positive factor; others added clear national guidelines and local protocols. Negative ratings related to health professionals' rare visits or absence.

Conclusions: The direct support of health professionals in schools was offered as explanation for teachers' positive ratings of intersectoral working in the pandemic. Policy and practice varied geographically; thus, understanding contextual factors that influence the effectiveness of intersectoral working in schools is crucial to orient future public health strategies.

Key messages:

- This highlights the importance of understanding contextual factors that influence the effectiveness of intersectoral working in implementing protective health measures in schools.
- This suggests that policy support and the presence of dedicated health personnel within schools play a pivotal role in ensuring effective collaboration between the education and health sectors.

Abstract citation ID: ckae144.1813
Key Factors Influencing Quality of Life in the Disabled Based on Multifaceted Life Satisfaction

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Background: Healthy life of the disabled is considered a global social issue, and enhancing the quality of life (QoL) of the disabled is an important task. The disabled have lower multifaceted life satisfaction due to various daily restrictions, which negatively affects their QoL. Research on the QoL of the disabled is ongoing, but there are few comprehensive studies addressing multifaceted life satisfaction. To enhance the QoL of the disabled, it is essential to understand their multifaceted life satisfaction and investigate key factors influencing their QoL.

Methods: We used data from the 2021 Disability and Life Dynamics Panel (nationwide survey). On the base of Patrick's model of disability health promotion, we analyzed the impact of multifaceted life satisfaction of the disabled on their QoL by using multiple regression analysis adjusted for gender, age, education level, daily living activities, type and severity of disability, and presence of multiple disabilities.

Results: The satisfaction with social relationships(β=.535, $p<.0001$), income(β=.146, $p<.0001$), housing environment(β=.132, $p<.0001$), occupation(β=.130, $p<.0001$), and health(β=.111, $p<.0001$) was found to have a significant positive impact on the QoL of the disabled. Particularly, satisfaction with social relationships exerted the greatest impact on their QoL.

Conclusions: Not only health satisfaction, but also social relations, income, housing environment, occupation had a substantial impact on the QoL of the disabled. These findings can support the government in prioritizing health policy development for the disabled and contribute to improving the QoL for the disabled through a comprehensive and integrated approach. The government should develop health policies to enhance social connections and support networks for the disabled, while also considering aspects for improving income, housing environment, occupation, and health.

Key messages:

- Not only health satisfaction, but also social relations, income, housing environment, occupation had a substantial impact on the QoL of the disabled.
- The government should prioritize developing health policies aimed at enhancing social relations for the disabled, while also considering income, housing environment, occupation, and health.

Abstract citation ID: ckae144.1814
Adapting, expanding and embedding community and culture into health ecosystems

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Background: Community anchor organisations (CAOs) work with communities who experience health inequalities and disadvantage, providing a range of activities and services to meet individuals' needs in an integrated way. This study explored how CAOs use art, cultural and nature-based activities as part of their work to respond to the needs of people facing inequalities and considered how activities can be scaled in this health setting.

Methods: This study used community-based participatory research within a case study approach to work with four purposively sampled CAOs. Participants were community members, volunteers, staff, trustees, partner organisations and commissioners. Data collection methods included: document analysis, interviews ($n=45$), workshops ($n=5$) and focus groups ($n=11$). This study was also supported by data collected by trained community researchers ($n=18$). Framework analysis was conducted for within- and cross-case analysis.

Results: In the context of CAOs, the delivery of art, cultural and nature-based activities were found to be an important mechanism for developing trusted relationships with marginalised groups, who may lack trust in statutory services and health focused activities. Other facilitators to community engagement were the CAOs' longevity, localness and co-location of services within a trusted and familiar place that connect people to personalised support. Barriers to scaling up included funding models as well as insufficient dialogue and understanding between CAOs and the local public health ecosystem.

Conclusions: CAOs have long term trusted relationships with disadvantaged communities and are influential in connecting individuals with projects and services. Findings suggest that the effectiveness of action to address inequality through art, cultural and nature-based activities could be improved if the role of CAOs was recognised more coherently in place-based public health plans.

Key messages:

- Creative activities enable meaningful engagement with disadvantaged groups within place-based settings.
- CAOs must be recognised more coherently in place-based strategies to reduce health inequalities.

Abstract citation ID: ckae144.1815
Health-promoting school. Mediation effects on health behaviors and the socio-economic level of pupils

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Pupils health indicators and behaviors are marked by social and territorial inequalities which develop early (DREES, 2015, 2019). In order to combat these inequalities and improve the health behaviors and well-being of pupils, the "health-promoting school" approach is recognized as convincing. It is endorsed by the World Health Organization (Langford, 2015; WHO, 2021). The health policy currently implemented in French schools is convergent (MEN, 2018, 2021). In order to disseminate this policy, since 2019, the Alliance project has been implemented in 101 French schools (9 - 12 years old) and 97 municipalities in the AURA region. Each school and community are trained and supported to promote the development of professional practices and a health promotion project to improve the health behaviors of pupils. The question arises as to the extent to which the development of health-promoting teaching projects and practices participating in the strengthening of health protective factors - life skills and health literacy - of pupils would have a mediating effect from the point of view of socio-economic level and health behaviors of pupils? Each year, data are collected from pupils by questionnaire, mesuring their well-being, health habits, psychosocial competencies and their families' socio-economic level. 11500 questionnaires collected during 3 years have been analyzed. Descriptive and bivariate analysis indicate sevreral improvements between years in their health habits like for example daily physical activities (6% for T0 and 16% for T2) or daily consumption of sweets (17% for T0 and 13% for T2). They confirm negative influence of risk factors as low socio-economic level on health habits. But mediation analysis show that psychosocial competencies, especially emotionnal and social competencies, mediate significatively this influence (mediation effect range from 5% to 21%).

Key messages:

- The health indicators and behaviors of young people are marked very early on by social and territorial health inequalities.
- Health-promoting school approach and particularly – life skills and health literacy – would have a mediation effect on health behaviors and the socio-economic level of students.

Abstract citation ID: ckae144.1816
Determinants of health prevention behaviors in Portugal

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Background: One of the main causes of death in developed societies are chronic non-communicable diseases, often originated by risky behaviors as tobacco consumption, poor diet, excessive alcohol consumption and lack of physical activity. Changing lifestyles can thus lead to a reduction in chronic diseases and in their economic costs. The objective of this study is to understand what the main factors associated with health behaviors are.

Methods: We used the data collected through the Portuguese National Health Surveys from 2014 and 2019. The sample analyzed was composed of individuals aged 15 or more years old living in the national territory at the time the surveys were conducted. Data on demographics, socio-economic variables and health related variables was used. A maximum likelihood estimation was performed using a multivariate probit model, by using health behaviors (weekly exercise, healthy diet, non-smoking, and prudent alcohol consumption) as the outcomes of the analysis.

Results: The results point to a strong association between social class and health behaviors, particularly between higher income and healthy diet. It is important to highlight that having an appointment with a General Practitioner is positively associated with all healthy behaviors. For all behaviors but healthy diet, the coefficients are statistically significant at a 5% significance level and non-smoking displays the highest one (0.135).

Conclusions: This study presents the first step to understand the determinants of health prevention behaviors, which is important to design policies targeting lifestyles. One of its main conclusions indicates that social class (income and education) and GP appointments are associated with health behaviors. Further research would be needed to study the underlying mechanisms through which some of these factors impact behaviors. This presentation was supported by National Funds through FCT, I.P., within CINTESIS, R&D Unit (reference UIDB/4255/2020).

Key messages:

- This study is an important step in the formulation of policies targeting lifestyles since it allows us to understand which factors are associated with health behaviors.
- From this study one can conclude that social class characteristics, particularly income, and access to GP appointments are associated positively with health behaviors.

Abstract citation ID: ckae144.1817
Loneliness and Social Isolation: qualitative study among youth in vulnerable situations

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Background: Loneliness and social isolation are increasing among young people, particularly those in vulnerable NEET (Not in Education, Employment or Training) situations, potentially leading to poor health and well-being outcomes. We aim to explore these challenges from the perspective of NEET youngsters and link workers who support them in co-creating individual action plans for their social and economic integration.

Methods: Data were collected through in-depth and semi-structured interviews with 15 young people in NEET situations, aged 18-34, and 7 link workers from several social organisations in rural and urban areas in Portugal. The young participants were selected based on their age, educational level, mental health needs, and urban/rural regions. Thematic analysis was used to analyse the interviews.

Results: The results showed a convergence between the perspectives of young people and link workers on the factors that influence social isolation and loneliness, including social and emotional skill deficits, excessive use of social media platforms, and mental health problems. Young people reported to being heavily involved in social media platforms, which often did not translate into meaningful relationships in real life. Youngsters also highlighted the lack of local support and community resources in rural areas. Link workers identified specific challenges young migrants face in community integration, including language barriers (for the youth with a migrant origin) and lack of familiarity with local resources.

Conclusions: This study highlights social media platforms, mental health and social and emotional skill deficits as main factors contributing to the social isolation and loneliness of young people in a NEET situation. This emphasizes the importance of integrated proximity-based interventions that incorporate community resource mapping and local support networks, including mental health support services, and promote multi-sector collaboration.

Key messages:

- Social media platforms, mental health needs, and social and emotional skill deficits drive social isolation in NEET youth, stressing integrated, community-focused interventions.
- Proximity-based strategies with community mapping and mental health support enhance NEET youths' social integration, urging cross-sector collaboration.

Abstract citation ID: ckae144.1818
Factors Influencing Quality of Life in the Disabled: Focus on Household Members Mental Health

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Background: Household members of the disabled experience various difficulties such as social isolation and the burden of caregiving. These difficulties can lead to mental health problems, which in turn affect the quality of life(QoL) of the disabled. Research on the QoL of the disabled is ongoing, but there are few studies addressing the mental health of household members. We aimed to investigate the impact of household members' mental health on the QoL of the disabled.

Methods: We used data from the 2021 Disability and Life Dynamics Panel(nationwide survey). On the base of Patrick's model of disability health promotion, we analyzed the impact of household members' mental health on the QoL of the disabled by using correlation analysis and multiple regression analysis adjusted for gender, age, income level, employment status, education level, activities of daily living, participation in social activities, type and severity of disability, presence of multiple disabilities, and health status.

Results: The level of depression(r=-.316, p<.0001) and self-esteem (r=.248, p<.0001) of household members were found to be significantly correlated with the QoL of the disabled. The level of depression of household members had a significant negative impact on the QoL of the disabled(β=-.153, p<.0001), while self-esteem had a significant positive impact(β=.144, p<.0001). It was found that the level of depression had a greater impact on QoL than self-esteem.

Conclusions: Lower levels of depression and higher levels of self-esteem of household members are associated with higher QoL for the disabled. Improving the mental health of household members is crucial in improving the QoL of the disabled, enabling them to interact more positively with society. Additionally, as 27% of household members experience depressive issues, enhancing their mental health positively impacts on the overall well-being of families with disabilities. Efforts to enhance household members' mental health are crucial.

Key messages:

- Household members' mental health significantly influences the quality of life of the disabled.
- To improve the quality of life of the disabled, strengthening programs for promoting the mental health of household members and policy improvements are necessary.

Abstract citation ID: ckae144.1819
Cardiac risk confrontation in primary care as a teachable moment towards improved health outcomes

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Background: Urgent life events, such as acute coronary events, can evoke a teachable moment (TM) for lifestyle change. This study aims to investigate whether less urgent events, such as being confronted with an increased risk of cardiovascular disease, can evoke a TM, what psychosocial factors are associated with it, and whether experiencing such a TM predicts improved health outcomes.

Methods: The study included 114 patients who were informed about their elevated cardiovascular risk during a primary care visit. Participants completed a survey assessing whether they experienced a TM and several psychosocial factors linked to experiencing it: perceived risk, affective impact, changed self-concept. Participants monitored their weight and blood pressure for six months using an at-home self-monitoring device. Univariate and multivariate regression analyses were conducted to examine the associations between the psychosocial factors and the lifestyle change intentions with changes in blood pressure and weight.

Results: Of the participants, 55.3% experienced increased lifestyle change intentions. Lower risk perception ((B = -0.27; CI = -0.39-(-0.15)) and higher change in self-concept (B = 0.34; CI = 0.23-0.44) were associated with higher intention to change lifestyle. Higher risk perception (B = 0.23; CI = 0.06-0.42) and higher change in self-concept (B = 0.54; CI = 0.37-0.72) predicted a lower weight reduction at six months. A higher change in self-concept predicted a higher blood pressure reduction (B = -3.32; CI = -6.55-(0.09)). Lastly, a higher lifestyle change intention predicted bigger reductions blood pressure (B = -5.04; CI = -9.08-(-0.29)).

Conclusions: Results suggest that less urgent cardiac events, such as a confrontation with an increased cardiac risk, can be experienced as a TM that urges lifestyle change intentions and affects health outcomes. Risk confrontations in primary care therefore offer a unique opportunity to provide lifestyle counseling at the right moment.

Key messages:

- A confrontation with an increased cardiac risk in primary care can be experienced as a teachable moment.
- Experiencing a teachable moment after a cardiac risk confrontation in primary care affects health outcomes.

Abstract citation ID: ckae144.1820
Trends in overall and abdominal obesity among Korean adults, 2007-2022: an Age-period-cohort analysis

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Overall and abdominal obesity, often defined as having high body mass index (BMI) and waist circumference (WC), are associated with an increased risk of chronic disease. A comprehensive understanding of trends and contributing factors is necessary to reduce the disease burdens. This study investigated the nationwide trends and independent effects of age, period, and birth cohort on BMI and WC in Korean adults. We conducted hierarchical age-period-cohort (cross-classified random-effects models) analyses using measured BMI and WC data from 85,292 Korean adults (aged $\geq$19) in the Korea National Health and Nutrition Examination Survey 2007-2022. We also examined whether the age, period, and cohort effects varied by socioeconomic subgroups. In 2007-2022, the age-standardized mean BMI (23.6 to 24.2 kg/m2) and WC (81.7 to 83.5 cm) increased in the overall population. An upward trend was evident among men, while only a slight change was observed in women. The mean BMI was highest at age 47 (25.1 kg/m2) in men and age 60 (24.2 kg/m2) in women and it decreased at older ages. Controlling for age and period effects, mean BMI was lowest among the birth cohorts of 1960-1964 (24.15 kg/m2), with the highest mean BMI observed among the birth cohorts of 1919-1939 (24.97 kg/m2) and 1990-2003 (24.99 kg/m2). The mean WC was highest at age 55 (88.0 cm) in men and age 79 (83.4 cm) in women. Similar U-shaped birth cohort effect was observed with WC, with the lowest mean observed among the birth cohorts of 1960-1964 [82.92 (0.30)]. At most age, period, and birth cohorts, mean BMI and WC were consistently higher among adults at lower income and education. The overall period effect was consistently found in all socioeconomic subgroups, but the gap in BMI between income and education subgroups widened over time. Our findings suggest that BMI and WC slightly increased in overall Korean adults in 2007-2022, with some inequalities among age, sex, birth cohort, and socioeconomic subgroups.

Key messages:

- The obesity indices increased from 2007 to 2022, but the cohort effect on BMI and WC showed a U-shaped pattern with the lowest mean among birth cohorts of 1960-1964.
- The obesity prevalence is varied by socioeconomic status, suggesting that more intense interventions may be needed to target the susceptible groups.

Abstract citation ID: ckae144.1821
Development and Implementation of Health Education Tools for Excluded Areas in the Czech Republic

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Background: Reducing health inequalities among population groups is imperative, however, health communication strategies tailored to ethnic minorities remain under-researched. To address this issue, various health communication strategies were developed and tested within the 3 year Saste Roma project, focused on improving health literacy and disease prevention in the excluded Czech Roma population.

Methods: A planning group comprising of doctors, sociologists, psychologists, NGOs and community health workers was established to create tailored health communication tools. The tools were developed with consideration of the sociocultural specifics of the Roma community, using focus groups, in-depth interviews, and the Delphi method. A PR agency was hired to implement the tools. Reach, engagement and Price Per Click = PPC were measured for online tools; feedback on offline tools was collected via surveys and interviews.

Results: From April 2021 to March 2024, 12 online and offline tools addressing 10 diseases were developed for various age groups and implemented. These tools, such as health literacy brochures and leaflets (78,500 pcs distributed), music videoclips (viewed 150,000 times), a mobile application (with over 500 users), social media profiles dedicated to health (with 140 followers), preventative events, school-based e-learning modules (implemented in 86 elementary schools in excluded areas), online campaigns (reaching 556,337 people; PPC of 0.85 EUR in case of in-house campaign Vs. PPC of 3.21 EUR by PR agency) or poster campaigns (engaging 3,046 individuals) focusing on excluded areas.

Lessons: This project represents the first extensive use of diverse communication tools targeting the Roma population. The involvement of community representatives (patients, artists, actors, and residents) in tool development is crucial. Training and support for health community workers are essential to achieve effective engagement with the community.

Key messages:

- Tools must be delivered in a culturally sensitive and comprehensible manner by members of the communities.
- Commercial PR agencies failed with this specific campaign. Cooperation with Roma artists and influencers is essential.

Abstract citation ID: ckae144.1822
Supporting Long Covid Care: a webtool to facilitate help-seeking among people with Long Covid

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Background: Long Covid (also known as Post-COVID19 Condition or Post-COVID Syndrome) is characterised by persistent symptoms following SARSCoV2 infection not explained by other pathology. Some evidence suggests that people from marginalised communities are more likely to experience Long Covid but are less likely to be represented in post-covid care in England.

Objectives: Findings from the STIMULATE-ICP case finding and HI-COVE studies show that some people living with Long Covid struggle to get adequate healthcare and social support. Barriers to obtaining support include a lack of awareness of Long Covid and supports available, uncertainty around the cause and complexity of symptoms, as well as experiences and expectations of stigma. The new Supporting Long Covid Care (SLCC) webtool was developed based on these findings and aimed to both facilitate help-seeking for people with probable Long Covid who are not receiving care and raise awareness among professionals. Extensive engagement with people with lived experience and professionals shaped the webtool. SLCC content was then beta-tested with stakeholders.

Results: SLCC (long-covid-care.org.uk) was launched in March 2024. One of its features is the acknowledgement that Long Covid can be a stigmatising condition. SLCC includes real-life quotes to connect emotionally with users, highlights the shared experiences of people living with Long Covid and illustrates the difficulties faced when seeking recognition and support. It encourages conversations with professionals, friends, family and others who may be relied on for support and offers resources to facilitate those conversations and inform next steps. SLCC is also an informative tool for healthcare professionals around Long Covid stigma.

Conclusions: SLCC is open to use by members of the public. Real-world evaluation and translation to other languages are now needed to explore if this webtool is beneficial and contributes towards addressing health inequalities.

Key messages:

- SLCC encourages people with probable Long Covid to seek help and support.
- SLCC raises awareness among healthcare professionals about the barriers and stigma people, particularly those from disadvantaged backgrounds, may face when considering reaching out for support.

Abstract citation ID: ckae144.1823
'HepGenç': A youth festival to promote health and well-being via films, photography, music, and arts

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Background: The 'Lifelong Health' framework of WHO emphasizes that investing in health during young ages fosters better health and higher quality of life in later years. When working with and for youth, using innovative and participatory approaches have become more important for effective health communication, especially in an era of increased environmental stimuli, digitalization, and decreased attention span for many young people, who are less attracted with traditional/ didactic health education and communication methods.

Objectives: This paper aims to share practical experiences of a multidisciplinary team of professionals with backgrounds in public health, psychiatry, communication, music, and arts, in collaboration with young people to organize a series of youth health festivals in different cities of Turkiye to promote youth health literacy and access to health care, with a special focus on mental health and well-being.

Results: HepGenc (ForeverYoung) Festivals are organized by academics and youth from different universities in Turkiye, in collaboration with NGOs and local municipalities of cities, where the events take place. These events encourage young people to think about health and well-being, including social and environmental determinants of health via short films, photography, music, and arts. The series of festivals use creative workshops to introduce different health and well-being topics to youth, who may not always find these issues ‘attractive.’ Social and mental health, including resilience and ability to adapt are also addressed, which help young participants to build a holistic and comprehensive look on health and its determinants.

Conclusions: Organizing health-focused festivals using films, photography, music, and arts encourages young people to be creative and productive, while raising their awareness on healthy lifestyles and healthy cities, and how they can be agents of positive change.

Key messages:

- Using films, music, and arts help with greater engagement of young people and facilitates their learning, as well as their creativity and productivity.
- Collaboration of health, communication, and arts professionals strengthens health communication/ education programs, with additional beneficial outcomes for all disciplines including shared learning.

Abstract citation ID: ckae144.1824
Combined HIV prevention: knowledge and attitudes among higher education students in Portugal

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Introduction: Combined Prevention is a strategy that combines different methods of HIV prevention that can be used simultaneously or sequentially, depending on the characteristics and life stage of everyone. Among the methods are condom use, regular HIV testing, pre-exposure prophylaxis (PrEP), and post-exposure prophylaxis (PEP). Combined prevention is particularly important for more vulnerable groups, such as adolescents and young adults.

Objectives: To investigate the knowledge and attitudes related to combined HIV prevention among college students.

Methods: A cross-sectional study was conducted with college students from two institutions in a Portuguese city in the year 2022. Sampling was non-probabilistic, by convenience. Students aged 18 to 29 who had initiated sexual activity were included. The data collection instrument was a structured questionnaire sent to students online. Data were analyzed descriptively. Ethical aspects were respected.

Results: A total of 424 students participated in the study; majority were female (79.2%), white (92.9%), single (96.7%), Catholic (67.2%), with a mean age of 20.8 years (SD = 2.3). The number of sexual partners in the last semester ranged from none to 19, with an average of two partners (SD = 1.9). Nearly all students (94.3%) agreed that condoms are the main form of HIV prevention, however, 45.2% did not use condoms in their last casual sexual encounter. Only 15.5% and 13.9% of participants reported knowing about pre- and post-exposure prophylaxis, respectively. The majority had never been tested for HIV (81.8%) and did not know where tests could be done for free (70.9%).

Conclusions: Despite higher education, students are vulnerable to HIV and have unsatisfactory knowledge about combined prevention measures.

Key messages:

- College students are young individuals with high vulnerability to contracting HIV and other sexually transmitted infections.
- Universities should assume their role as promoters of health and develop strategies that contribute to students’ knowledge and reflection on HIV and its prevention methods.

Abstract citation ID: ckae144.1825
Association between fitness levels and physical activity in apparently healthy Colombian men

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Physical condition (PC) such as strength and endurance favor functional independence and disease prevention (Melo, 2014). Objective: To characterize the levels of Physical Activity (PA) and CP in apparently healthy men who practice PA in different settings in Bogotá-Colombia. This study is observational cross-sectional, 485 Men (M) participated, mean age 42±17.8 years. To measure the levels PA the IPAQ (International Physical Activity Questionnaires) was applied. The Confidence Interval (CI) and Standard Error (SE) were taken into account. For PA levels, data were analyzed with Rstudio v2022.12.0, with empirical distribution tests, Kolmogorov-Smirnov normality and independence with Chi-Square (χ^2), in addition, mean ($\bar{X}$), percentage (%) and standard deviation (±). 90.6% of the H met the overall PA recommendations (Leisure Time+Active Transportation) with 95% CI (88.0-93.0) and SE (0.012). The PC variables such as; Body Mass Index (BMI), Body Adiposity Index (BAI), Abdominal Circumference (AC), Grip Strength (GS) and Maximal Oxygen Consumption (Vo2max). The results showed that 35.6% (26.9±1.48) of H were Overweight (Ow) and 10.6% (32.7±2.39) were Obese (Ob), 39.7% (98.4±6.8) with Cardiovascular Risk (Rcv) by AC and 24.3% (29.7±3.45) with risk by BAI. As for GS 41.5% (27.1±6.39) is weak and 32.3% (33.3±6.3) is low Vo2max. According to independence tests with χ^2 there is association between the G and BMI (χ^2=1452.1, df = 1427, p-value=0. 315), G and AC (χ^2=394.9, df = 382, p-value=0. 313), G and Vo2max (χ^2=155.5, df = 6, p-value<2.2e-16), G and BAI (χ^2=2970.3, df = 1502, p-value<2.2e-16), G and GS (χ^2=6015.5, df = 1502, p-value<2.2e-16). This project was approved by the bioethics committee.

Conclusions: 149 men corresponding to 30.7% of the sample present an increased possibility of Rcv, despite compliance with global PA recommendations. It is recommended that PA programs reinforce the improvement and promotion of PC to prevent possible Rcv.

Key messages:

- The capacities that define physical fitness (FC) such as strength and endurance favor functional independence and disease prevention (Melo, 2014).
- Apparently healthy men in Colombia present a higher possibility of Cardiovascular Risk due to low levels of physical fitness, despite compliance with global BP recommendations.

Abstract citation ID: ckae144.1826
Evidence of association between gender and physical fitness in physically active people in Colombia

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Background: Physical Condition (PC) is an important health marker (Colley, 2019), as a predictor of morbidity and mortality from cardiovascular diseases, among other causes (Cruz, 2018).

Aim: To perform association tests between gender (G) and CP in physically active people in Colombia. This study is observational cross-sectional, 1,503 people participated, 1,019 Women (W) (68.6%) and 485 Men (M) (31.4%) in Colombia, mean age 52± 16.2 in W and 42±17.8 in M. Data were analyzed with Rstudio v2022.12.0. The statistical protocol was: 1- Empirical distribution. 2- Normality tests with Kolmogorov-Smirnov. 3- Tests of independence with Chi-square (χ^2). The mean ($\bar{X}$), percentage (%) and standard deviation (±) were taken into account. PC was measured in body composition variables; Body Mass Index (BMI), Body Adiposity Index (BAI) and Abdominal Circumference (AC), Grip Strength (GS) and Maximal Oxygen Consumption (Vo2max).

Results: In W, 38.3% (27.2±1.37) were overweight (Ow) and 19.1% (33.0±2.83) obese (Ob), 69.6% (90.9±8.14) cardiovascular risk (CVR) for AC and 50.4% (32±4.73) risk for BAI. Regarding GS 43.4% (15.8±6.38) is weak and 54.6% (27.7±4.98) Vo2max is low. In M 35.6% (26.9±1.48) presented Ow and 10.6% (32.7±2.39) in Ob, 39.7% (98.4±6.8) with Rcv by AC and 24.3% (29.7±3.45) at risk by BAI. As for GS 41.5% (27.1±6.39) are weak and 32.3% (33.3±6.33) under Vo2max. According to independence tests with χ^2 there is association between the G and BMI (χ^2=1452.1, df = 1427, p-value=0. 315), G and AC (χ^2=394.9, df = 382, p-value=0. 313), G and Vo2max (χ^2=155.5, df = 6, p-value<2. 2e-16), G and BAI (χ^2=2970.3, df = 1502, p-value<2.2e-16), G and GS (χ^2=6015.5, df = 1502, p-value<2.2e-16). This project has been approved by the bioethics committee.

Conclusions: Test of independence with (χ^2), being a non-homogeneous sample, there is a strong association between G and PC with BMI, BAI, AC, GS and Vo2max, each variable depending on the others, evidencing higher Rcv in women with respect to men.

Key messages:

- Several studies consider Physical Condition (PC) is an important health marker (Colley, 2019), as a predictor of morbidity and mortality of cardiovascular disease, among other causes (Cruz, 2018).
- There is a strong association between G and the levels of BMI, BAI, AC, SG and Vo2max variables, each variable depending on the others, showing a higher Rcv in women compared to men.

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Caffeine intake, chronotype, and student sleep quality at Polytechnic of Leiria

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Introduction: Higher education students ingest very high doses of caffeine, on average twice the recommended safe dose. This excessive consumption can become problematic, ultimately affecting sleep quality and, consequently, academic performance. The aim of this work is to describe caffeine consumption, sleep quality and to characterize the chronotype and academic performance of students at Polytechnic of Leiria.

Methods: An online self-completion questionnaire was developed, consisting of several instruments: The Caffeine Consumption Questionnaire; Horne and Ostberg morningness-eveningness Questionnaire; Pittsburgh Sleep Quality Index (PSQI), to describe caffeine consumption, characterize chronotype and assess sleep quality, respectively. The mean, standard deviation, minimum and maximum values were calculated for the quantitative variables. Absolute and relative frequencies were calculated for the qualitative variables. Parametric tests were used to compare groups; when this was not possible, non-parametric tests were used. $P < 0.05$ was considered statistically significant.

Results: Of the 261 students (mean age: 23.26 ± 6.60 years), 64.2% had poor sleep quality and 45.3% reported an afternoon chronotype. It was found that men consumed more coffee and energy drinks than women, although women consumed more caffeine-containing food products. The average academic score was 14.56 ± 1.61. There was a statistically significant association ($p < 0.01$) between the afternoon chronotype and poor sleep quality and between the consumption of coffee and chocolate drinks and poor sleep quality.

Conclusions: Students at Polytechnic of Leiria tend to have poor sleep quality and an intermediate chronotype. Those with an afternoon chronotype or who drink coffee and chocolate drinks have poor sleep quality.

Key messages:

- Accurately assessing the situation is essential for crafting suitable solutions.
- Higher students should adjust their coffee consumption to achieve better sleep quality.

DO. Poster display: Health workforce, education and training

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ISCO-08 Classification and scope of practice of nurses: Survey among WHO-Europe member states

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Background: The expansion of nurse's roles in the delivery of care needs transparent defining of roles, extra education/training opportunities, and complementary legislative regulations.

Methods: This cross-sectional study was planned to explore status of nursing and midwifery workforce in WHO Europe member states. Data were collected from December 2020 until September 2023.

Results: ISCO-08 2221 is used to classify for only bachelor prepared-nurses in 2 of countries (Bulgaria and Spain). Besides, it is used only for vocational prepared-nurses in 2 of countries (Kyrgyzstan and Tajikistan). Those countries only have vocational or bachelor education. ISCO-08 2221 is used in 1 of countries which have two entry levels with vocational and bachelor prepared-nurses (Georgia). ISCO-08 3221 is referred to vocational training in 5 (20%) countries (Armenia, Finland, the UK, Croatia, Hungary). ISCO-08 2221 is main classification for all levels prepared nurses in 18 countries including Switzerland, Cyprus, Czechia, Germany, Denmark, Ireland, Israel, Iceland, Kazakhstan, Lithuania Latvia, Malta, Poland, Portugal, Romania, Sweden, Slovakia, Türkiye. Scope of practice of vocational and bachelor prepared nurses is defined by law/legislation in 25 of member states. Scope of practice vocational versus bachelor depends on conduct scientific tasks

(Switzerland), being broader (Kazakhstan), competency level (Hungary, Croatia, Portugal) exceptionally there is no difference in Malta. Scope of Registered Nurse, Specialist Nurse and Advanced Nurse Practitioner differ in 22 of countries of those which on activities/practice/roles, expanded authority, working with determined care group. As a result, while scope of practice of professional nurses varies in line with their education level, ISCO-08 2221 is used for nurses' classification from all education levels in member states.

Key messages:

- There is no classification for postgraduate trained nurses (as is the case for physicians), even though scope of practice is different across education levels.
- When revising the ISCO-08 classification, it should be recommended that a common terminology is needed to define postgraduate nurses in region.

Abstract citation ID: ckae144.1829
The Population-Centered Medical Model: a method of practice for public health physicians

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Background: Public Health Physicians (PHPs) in Canada occupy a liminal space between medicine and public health. Current practice frameworks for the care of individual patients by physicians do not account for the complexity of working with communities and populations for health. Similarly, frameworks for public health practice do not account for the roles and responsibilities of physicians in public health. A method of practice that outlines how public health physicians care for populations is vital for training and development of practice for this specialty group within medicine and public health.

Methods: Constructivist Grounded Theory methods were used in this study. Ethics approval was obtained through The Western University Health Sciences Research Ethics Board. Semi-structured interviews were conducted with eighteen (18) currently practicing PHPs across Canada. Data was analysed iteratively using constant comparison, multi-level coding, and memo writing. Thick description and reflexivity were employed to enhance rigour.

Results: The key finding is the elucidation of the Population-Centered Medical Model. In this empirically grounded model, PHPs bring values, knowledge and stances to their practice of Public Health Medicine. PHPs consider the population as patient, along with ethical obligations that flow from the physician to the population as a consequence. The process of caring for populations involves both diagnosis and intervention, with a focus on systems and prevention. It relies on knowledge sharing and relationship building between the physician and the population.

Conclusions: This is the first empirical model to describe the practice of PHPs. The model firmly grounds PHP practice in both medicine (diagnosis and intervention, the construction of a patient) and public health (focus on populations, systems and prevention). It also presents an opportunity to develop a general model of medical practice for n patients, where n can range between 1 and N.

Key messages:

- The Population-Centered Medical Model is an empirically grounded model that describes the work of Public Health Physicians in Canada and grounds practice firmly in medicine and in public health.
- Public Health Physicians consider populations as patients. They diagnose and intervene for health, with a focus on systems and prevention, by building relationships and sharing knowledge.

Abstract citation ID: ckae144.1830
Is the medical curriculum failing patients with obesity? - A public health concern

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Introduction: Despite the global surge in obesity, it often receives insufficient attention in medical curricula, potentially impacting its management. This study aims to assess the preparedness of medical students in managing obesity.

Methods: A cross-sectional survey was conducted by disseminating a mixed-methods anonymous questionnaire to medical students studying at the University in Malta. A sample size of 117 participants was determined a-priori. Descriptive statistics and chi square testing were conducted. and coupled with thematic two-stage coding analysis of qualitative data.

Results: 189 participants were recruited. The majority expressed dissatisfaction with the teaching of obesity and its management during the MD course (pre-clinical = 90%; clinical = 74.4%, $p = 0.006$). Clinical students expressed dissatisfaction regarding the adequacy of their pre-clinical education (82.65%) and clinical attachments (70.40%), in equipping them with the theoretical knowledge and foundational skills necessary for managing patients with obesity. No significant difference between clinical and pre-clinical students' knowledge was noted except concerning diagnostic criteria (preclinical: 63.33% versus clinical: 89.90 %; $p < 0.001$). Thematic analysis highlighted the importance of curricular obesity teaching, need for a holistic approach towards obesity, and hesitancy in treating patients with obesity.

Conclusions: The gap between medical students' perceived readiness and the growing obesity epidemic is a public health concern. Without proper training, future doctors may struggle to manage obesity, posing risks to health outcomes and healthcare systems. Urgent curricular reforms are necessary to prioritize obesity education and ensure physicians are equipped to address obesity, to meet national needs. This requires collaboration among stakeholders, especially post-COVID-19, to align medical education with public health needs while addressing the severity of the obesity epidemic in Europe.

Key messages:

- A gap between students' attitudes and their understanding of obesity education was identified in this study, indicating a need for curriculum reform.
- This presents a critical public health issue, as it leaves the new generation of doctors ill-equipped to address the growing obesity epidemic across European countries.

Abstract citation ID: ckae144.1831
Navigating Burnout: Exploring Pharmacists' Attitudes toward Patient Care

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Background: The study aimed to investigate the link between pharmacists' burnout levels and their attitudes toward patient care, crucial for addressing burnout's impact on service quality and fostering positive patient interactions.

Methods: The study utilized the Shirom-Melamed Burnout Questionnaire (SMBQ) to assess burnout levels among 442 community pharmacists. Additionally, the five-point Likert Scale of

General Attitudes and Beliefs of Pharmacists about their Work with Patients (SOSUF), developed by the authors, was employed to measure pharmacists' cognitive, affective, and behavioral attitudes toward patient care. Statistical analyses involved correlation and regression procedures.

Results: Moderate burnout levels among pharmacists observed (mean SMBQ score: 4.18 ± 0.96, range: 1.45 to 6.55), alongside generally positive attitudes toward patient care (mean SOSUF score: 3.44 ± 0.37). Regression analysis revealed a moderate positive correlation between burnout and attitudes toward patient care ($R = 0.336$, R Square = 0.113, Adjusted R Square = 0.111, $p < .001$). Burnout impacted pharmacists' attitudes, notably in perceptions of patients not appreciating their efforts ($r = -0.317$, $p < 0.001$), finding patient interactions challenging ($r = -0.409$, $p < 0.001$), and disregarding their advice ($r = -0.333$, $p < 0.001$).

Conclusions: Despite generally positive attitudes toward patient care, burnout moderately correlates with negativity, notably impacting perceptions of patient appreciation, interaction challenges, and adherence to advice. Addressing burnout is crucial for maintaining positive patient care attitudes and ensuring quality service delivery.

Key messages:

- Burnout impacts pharmacists' patient care attitudes, emphasizing the need for intervention to enhance healthcare delivery.
- Implementing strategies to reduce burnout among pharmacists can improve patient care outcomes.

Abstract citation ID: ckae144.1832
Strengthening data management skills amongst public health professionals during the war in Ukraine

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Background: The current war in Ukraine has led to disturbances in public health surveillance and epidemiological data flow, which impacts timely decision-making at regional and national levels. The five-year USAID project "Public Health System Recovery and Resilience Activity" (PHS R&R) aims to strengthen the Public Health system of Ukraine, including through the training of specialists in data management and disease surveillance.

Objectives: An innovative mixed-method, multi-module course was piloted in January 2023 to provide epidemiologists and other public health professionals with up-to-date knowledge and practical skills in disease surveillance and data management. The course was designed based on a needs assessment study carried out across the regional Centres for Disease Control (CDCs) in 2022. Modules were delivered both in person and online to reach a wider audience.

Results: 1,540 public health specialists attended the first module on Excel skills, online. A further 26 completed a second module, covering disease surveillance methods, data management, and data flow across regions, in person. Over 85% of participants in the second module reported that it was highly relevant to their day-to-day work, especially practical sessions on data analysis and reporting. The second module is currently under revision based on participants' feedback before being scaled up. A more advanced module on data management is being developed and aimed to launch at the end of 2024.

Conclusions: The course was timely and relevant for Ukrainian public health specialists in need of enhanced surveillance and data management skills to detect and respond to public health threats. Its innovative format allowed it to train a large cohort of specialists across a variety of essential public health functions despite the full-scale war. This experience would be relevant for any country aiming to strengthen its preparedness for potential public health emergencies, especially in fragile settings.

Key messages:

- The comprehensive training course on epidemiological surveillance and data management will equip Ukrainian public health specialists with data-driven decision-making skills in the war context.
- The described training approach would be relevant for the countries which seek sustainable workforce development solutions to strengthen public health systems in fragile settings.

Abstract citation ID: ckae144.1833
How much digital public health is taught in German public health programs? A qualitative analysis

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Background: Digital public health (DiPH) professionals are crucial for a successful digital transformation in social and health care. However, the extent to which academic professionals are taught DiPH-related content in their public health studies in Germany remains unclear.

Methods: We used a systematic module handbook analysis to assess accredited full-time public health-oriented degree programs at German Universities for DiPH-related modules. Programs were identified through the Hochschulkompass platform and among the German Public Health Association member programs. We used MAXQDA for the content analysis of the included module handbooks.

Results: We identified 79 public health programs. Of these, 10 Bachelor's and 6 Master's offered at least one DiPH module, all being highly heterogeneous in their overall addressed public health subfields. Regarding DiPH, 6 programs lectured on the ethics of digitalizing health and data protection, 5 programs each offered modules on DiPH in health policy, on data science in healthcare and software used for eHealth, or on the digital determinants of health. 4 programs each included modules on digital health promotion and alternative evaluation methods. 3 programs each addressed digital science communication and health technology assessment. Finally, 2 programs had modules on digital epidemiology. We found differences between the common understanding of DiPH in academia and the content in the module handbooks. The content identified in the analysis focused mainly on technical areas. Social and health science content was only marginally present.

Conclusions: The diverse DiPH study programs allow academic public health specialists in Germany to develop specific profiles. There is a need for further development of modules with relevance to the respective degree program to achieve comprehensive competencies in DiPH. We encourage the uptake of our analysis to develop a core curriculum in DiPH among European public health programs.

Key messages:

- Digitalization affects all areas of life, including healthcare systems and public health. Preparing the future workforce already during their training is crucial to enable them to lead the change.
- German public health programs are not fit to prepare students for their professions. Developing DiPH curricula with pre-defined and updated competencies will strengthen programs in Germany and beyond.

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Training for migrant live-in care workers in Austria: results from an online survey

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Background: In Austria, almost 60.000 migrant “24-hour” live-in caregivers work in two- or four-week shifts, travelling between Austria and their countries of origin (mostly Romania, Slovakia, Croatia, Hungary and more) to care for frail older people at home. As opposed to other social and healthcare professions, live-in care workers do not require any formal training at all to be able to work in Austria.

Methods: With the aim of gaining an in-depth insight into the working conditions of live-in caregivers and with the aim of recording their problems and needs, an online survey including 40 questions was conducted from 15 July to 15 September 2023 in four languages (Slovak, Romanian, Bulgarian and German). The study is part of the MigraCare project which focuses on improving working and living conditions for migrant live in care workers.

Results: Results show that many live-in caregivers are not fully aware of their job profile: what are nursing and medical tasks they are only allowed to do when delegated by professional healthcare staff? Most respondents have to take on tasks that are outside their job profile. Many state that it is difficult to care for people with dementia. In addition, some caregivers report physical and psychological violence and sexual harassment. Most wish for training possibilities regarding topics like dementia, communication with client and family, legal framework regarding their job in the long-term care sector and others.

Conclusions: Live-in care workers wish for continuous education activities and for a better relationship with the family relatives and the care recipient. Based on the results of the survey short multilingual training videos have been developed easily accessible on a video platform for live-in care workers. Also, a connection to community nurses has been established in order to improve communication between care recipient, family members and live-in care workers.

Key messages:

- Results from an online survey show that live-in care workers face challenges at work which are partly due to an unclear job profile as well as communication problems with the care recipient.
- Results of an online survey show that live-in care workers wish for education and training opportunities (mother tongues) in the field of dementia care, communication with family or legal framework.

Abstract citation ID: ckae144.1835
Forecasting the future demand on health workforce – the Austrian model

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Background: An aging population and upcoming retirements of health care professionals pose new challenges to the Austrian health care system. On the one hand the health care and nursing needs will increase while at the same time a shortage on health care personnel threatens adequate supply. We as the Austrian Public Health Institute estimate the risk of an undersupply with model-based health workforce forecasting and are therefore able to advise the federal states and the ministry of health on early measures.

Methods: We developed a forecasting model to estimate the future supply and demand. The main influencing factors are the demographic development as well as the upcoming retirements and graduates. Different environments and needs in different federal states (e.g. changing future skill mix) are considered and can be implemented as additional influencing factors. Usually a baseline scenario as a forward projection of the status quo is developed for defined professions and workplace settings. Then depending on the stakeholder needs additional scenarios are calculated and discussed. A usual forecast horizon is 10 to 15 years.

Results: Model output are time series of yearly workforce personnel numbers (heads and full-time equivalents) and demand in the defined settings. An analysis of possible gaps shows the need for action.

Conclusions: The Austrian health workforce model is a flexible tool to estimate future needs on health workforce based on different assumptions. But as assumptions and influencing factors must be represented as data, the data collection can be quite laborious. Comprehensive data is the basis for a comprehensive health workforce planning. Further work is needed to develop practical and evidence-based nursing-sensitive indicators for nursing workfoce reportings on a country level. In Austria the health professionals register forms the basis for the description of the nursing workforce structure, but that there is a need for data sources on care effectiveness.

Key messages:

- Comprehensive data is the basis for a comprehensive health workforce planning.
- An aging population and upcoming retirements of health care professionals pose new challenges to the Austrian health care system.

Abstract citation ID: ckae144.1836
A Training-of-Trainers program for health facilitators fighting malaria in a vulnerable community

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Background: When Public Health is challenged by issues related to migrant and vulnerable populations, health facilitators’ profiles are crucial to accessing communities and increasing intervention effectiveness and acceptability. The French overseas region, French Guiana, is concerned with a migrant population living in vulnerable conditions far from healthcare and being a major reservoir of malaria. Curema is an intervention implemented to fight malaria in this population by distributing RDTs, and treatments after an appropriate training of participants. Facilitators from the community are employed to provide health education and enroll participants.

Objectives: An intensive theoretical-practical training program was realized to enable facilitators to master procedures related to the intervention. The training was designed using the CDC Training-of-Trainers (ToT) framework and adult learning principles. It was composed of initial and on-the-field training, both based on bidirectional, participative, and dynamic working spaces. A mixed-method evaluation was carried out to assess training effectiveness and quality.

Results: Group dynamics and adaptations driven by facilitators' needs were key elements of a high-quality training program. Satisfaction was elevated for training format and learning results. Statistically significant improvements in knowledge level demonstrated good effectiveness. During the initial training, difficulties persisted regarding some tasks to be performed during the intervention: further on-the-job training addressed them, improving facilitators' practices in the field.

Conclusions: High-quality, effective, and appropriate training programs are required for intervention involving facilitators' profiles. Training design is crucial to achieve it. ToT model has been shown to allow high satisfaction, learning results, and good implementation in the field. Initial and on-the-job training are an indispensable continuum to sustain good practices and motivation.

Key messages:

- If health facilitators from the community are actors in public health interventions, appropriate training is necessary to ensure good implementation.
- ToT seems an optimal model for training health facilitators.

Abstract citation ID: ckae144.1837
Assessment of healthy worker survivor bias among middle-aged manufacturing employees in Korea

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Background: Healthy Worker Survivor Bias (HWSB) describes a selection bias where those continuously employed tend to exhibit superior health outcomes compared to their unemployed counterparts. This bias challenges for adjustments due to its time-dependent nature. This study aims to evaluate the extent of HWSB related to changes in employment status among middle-aged manufacturing workers using comprehensive national data from Korea.

Methods: The study analyzed data from the National Health Insurance Service, targeting individuals aged 40-49 who maintained consistent insurance coverage-either as manufacturing employees or non-employees (self-employed or unemployed)-from 2008 to 2010. The observation period spanned from January 2011 to December 2022, with all-cause mortality as the primary outcome. We employed landmark analysis to quantify HWSB related to employment status by comparing age-standardized mortality ratios between employees and the general population from the initial assessment to the last landmark period (up to 7 years), calculating 95% confidence intervals (CI) using Poisson distribution.

Results: The cohort included 4,621,983 participants (726,616 manufacturing employees and 3,895,367 (84.3%) non-employees). Throughout an average follow-up of 10.9 years (43.1% male; median age of 44), there were 116,418 deaths (11,530 (1.6%) among manufacturing employees and 104,888 (2.7%) among non-employees). Analysis revealed a consistent linear increase in HWSB over time. Notably, the bias was more pronounced among females (7-year HWSB-ES [95% CI]: 0.27 [0.17-0.37]) compared to males (7-year HWSB-ES [95% CI]: 0.18 [0.14-0.22]).

Conclusions: This study quantifies the extent of HWSB among middle-aged manufacturing workers in Korea, highlighting its significant impact, notably in females. These findings are vital for occupational health research, emphasizing the necessity to consider HWSB to prevent the underestimation of health risks associated with hazardous exposures.

Key messages:

- Findings suggest HWSB is more pronounced in female manufacturing workers, indicating the need for targeted occupational health interventions.
- The study underscores the importance of accounting for HWSB in occupational health studies to avoid underestimating health risks associated with workplace exposures.

Abstract citation ID: ckae144.1838
Working in emergency services in Germany: cross-sectional data on violence experience and perception

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Background: Violence in emergency medical services (EMS) continues to be a topic of concern. Experiencing violence impedes the workers' wellbeing, thus impairing the coverage and quality of EMS. We explored employment-related factors associated with violence experience and perception.

Methods: We conducted an anonymous online-based survey among EMS staff in Germany (09.2023-01.2024). Participants reported on their work setting, frequency of violent experiences and perception of violence. Descriptive statistics and logistic regression were calculated.

Results: Of 224 participants with completed questionnaires, 86 reported to have been exposed to physical violence (PV) in the past 12 months (Median number of events=2.00) and 129 reported to have experienced non-physical violence (NPV; Median number of events=5.00) with the majority of participants reporting that all cases occurred during assignment (n(PV)=79; n(NPV)=86). Of those, 78 reported PV by patients and 5 by colleagues, while in NPV cases 113 participants experienced violence by patients and 40 by colleagues. Women had a higher probability of reporting PV experiences compared to men (OR = 2.214, p=.010). Reporting NPV experiences was negatively associated with age between 45 and 49 (compared to $\leq$ 24 years, OR=.291, p=.019) and having worked for the current employer for $\geq$16 years (OR=.339, p=.035). Participants who have experienced violence in the past year had a higher likelihood of perceiving a general increase in the prevalence of violence in EMS (PV: OR = 6.766, p<.001; NPV: OR = 1.688, p=.047).

Conclusions: Younger EMS workers with juniority have a higher probability of reporting experiencing NPV. Women are more likely to report experiencing PV. It remains to be explored, if these associations refer to the experiences of violence, to reporting frequency or both. Regardless, the majority of respondents perceive an increase in violence within the work setting of EMS, especially if they have been subjected to it themselves.

Key messages:

- EMS professionals experience significant levels of physical and non-physical violence originating from patients and colleagues.
- Sex, age and seniority may affect the likelihood of EMS professionals of experiencing physical or non-physical violence.

Abstract citation ID: ckae144.1839
The pivotal role of positive emotions in maintaining nurses' trust and preventing pandemic fatigue

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Background: Nursing is a challenging profession that demands quick adaptation to changing conditions. The COVID-19 pandemic has placed unprecedented pressure on nursing teams, leading to high-stress levels and uncertainty. This study examines how nurses' emotional response at the start of the pandemic predicts their trust in the healthcare system and pandemic fatigue after three morbidity waves.

Methods: This study included collecting self-reported data among Israeli nurses in three time periods: 346 nurses during March-May 2020 (T1), 260 nurses during June-July 2020 (T2), and 91 nurses during February 2022 (T3). Change in the study variables was assessed using repeated-measure ANOVA. Two multiple linear regression models were calculated for trust and pandemic fatigue at T3, with the emotions at T1 and professional seniority as predictors.

Results: A significant increase in negative emotions was observed between T1 and T2 ($M = 2.65$, $SD = 1.12$ and $M = 3.20$, $SD = 1.29$ respectively). Furthermore, there was a significant decrease in trust levels between T1 and T3 ($M = 4.68$, $SD = 1.14$ and $M = 4.07$, $SD = 1.08$ respectively). The regression model for trust was significant, with 20% of the variance explained in it, revealing that higher positive emotions at T1 predicted higher trust at T3. Similarly, the regression model for pandemic fatigue was significant ($R2=22\%$), showing that lower professional seniority and lower positive emotions at T1 were predictors of higher pandemic fatigue at T3.

Conclusions: During a crisis, nurses may experience intense negative emotions like fear and anxiety. However, positive emotions, such as pride and a sense of mission, are crucial in maintaining their trust and preventing the onset of pandemic fatigue. Healthcare organizations should promote emotional support and provide emotional resources so that nurses can continue to deliver high-quality care even during challenging times.

Key messages:

- During times of crisis, it's crucial to foster positivity and encourage a sense of pride and accomplishment in nursing staff.
- Healthcare organizations must provide emotional support to nursing teams in routine and crisis situations to prevent burnout and maintain trust and long-term functioning.

Abstract citation ID: ckae144.1840
Workshops: Enhancing communication for nursing students with patients with hearing disabilities

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Background: Nursing students need guidance on effective communication strategies for interacting with patients with hearing disabilities, emphasizing the importance of addressing this gap in their education as future healthcare professionals.

Methods: A cross-sectional survey was conducted among nursing students at seven institutions before and after workshops led by guides with hearing disabilities from a non-profit organization Ma'agalei Shema and funded by the National Insurance Institute. Data was collected from 2023 to March 2024 and analyzed using SPSS software.

Results: 279 participants completed the survey before the workshops. and 136 responding afterward. Almost 80% were female. Before the workshops, 68.46% of students expected to gain communication tools for patients with hearing disabilities. About one-third believed the healthcare system offers accessible treatment to these patients, while only 22.22% foresaw no barriers. One-third reported no clinical contact with such patients. Among those who did, lip-reading (25.53%), writing (17.73%), assistance from family members (15.6%), and sign language (9.22%) were commonly used. Only 2.84% used professional sign language interpreters, and 20.57% reported never meeting a patient with hearing disabilities (8% reported "other"). Post-workshop surveys showed that around 82.48% of participants felt the workshops would significantly enhance their communication skills with such patients, with only 5.11% reporting a lack of practical tools received.

Conclusions: Practical workshops can significantly enhance communication skills and improve patient care. This study underscores the potential impact of minor adjustments in communication strategies on patient care, such as increasing the use of professional interpreters. Main messages: Providing training to nursing students in effective communication with these patients can streamline interactions, diminish reliance on family intermediaries, and enhance medical care.

Key messages:

- Nursing students need guidance on communicating with patients with hearing disabilities to improve future healthcare interactions.
- Practical workshops enhance communication skills, stressing the importance of minor adjustments for better patient care.

Abstract citation ID: ckae144.1841
"We want to get out" – A qualitative study on reasons for nurses' early retirement intentions

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Background: Nurses, the largest workforce in healthcare, play a central role in health systems. There is a severe global shortage of nurses, which is expected to worsen as a significant portion approaches retirement age. Early retirements can harm care quality and healthcare access, thus significantly impacting public health. Identifying reasons is crucial to prevent this trend. This study examined factors behind nurses' early retirement intentions.

Methods: A descriptive qualitative study was conducted in an Irish hospital (July to September 2023) including individual interviews with 10 nurses aged 55 and over. A thematic analysis was conducted collaboratively by three researchers to identify key factors influencing nurses' intentions to retire early.

Results: Five main themes emerged: 1) Health concerns, encompassing physical strain and psychological stress, significantly influencing early retirement intentions; 2) Struggling to balance job demands with personal responsibilities such as caring for ageing parents due to inflexible work schedules; 3) Need for more support from senior leaders to address staffing shortages and investment in aging nurses' career and retirement planning to make staying more desirable and easier; 4) Feelings about nurses' experience being undervalued in the evolving healthcare; and 5) Facing constant heavy responsibility in guiding new nurses, while simultaneously fearing patient safety risks and encountering generational differences.

Conclusions: Developing support systems for ageing nurses, encompassing strategies to ease workload strain, enhancing career opportunities, and promoting intergenerational collaboration are critical for reducing early retirement trends and sustaining a resilient healthcare workforce. By implementing tailored approaches, such as flexible scheduling and mentorship programs for ageing nurses, healthcare organisations can promote workforce longevity and enhance public health outcomes through improved care delivery.

Key messages:

- Health challenges and struggles in work-life balance influence early retirement intentions among nurses, urging flexible work arrangements and improved recognition and leadership in healthcare.
- To extend work careers, organisations must invest in ageing nurses' career and retirement planning, value experience, and acknowledge potential challenges and benefits in intergenerational nursing.

Abstract citation ID: ckae144.1842
Virtual Children's Hospital for Learning Pediatric Nursing

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Background: In the context of a funded Erasmus+ program, a platform of a Virtual Children's Hospital for Learning Pediatric Nursing - VLPN is being developed. The education of nurses working with children, adolescents and families, needs to include specialized knowledge, skills, attitudes and behaviors that will empower them to provide optimal and high-quality care. The virtual platform enables the improvement of pediatric nursing competences of the nursing students through interactive and self-paced activities and content.

Objectives: 1. To develop an immersive and interactive virtual reality learning environment (VRLE), a virtual children's hospital and new teaching and learning methods and practices, utilizing virtual reality and simulation in teaching. 2. To promote the international collaboration of students and lecturers through the VRLE

Results: The results are preliminary. 1. The VRLE includes educational materials developed to be integrated in the pediatric nursing studies, easy to access and use by the students and teachers with innovative self-pace learning material i.e. videos, 3D-models, interactive tests. Digital patients can react to the provided care with speech, movement, facial expressions and gestures, something that is not possible with the manikins in the Labs. 2. Nursing students and lecturers from different countries can participate in joint remote seminars or workshops in the VRLE, sharing and comparing their country and culture-specific differences and similarities in the nursing practices. VRLE and digital materials enables synchronous and asynchronous learning.

Conclusions: VRLE is highly conducive to clinical and procedure-focused training by enabling simulation. VR methods offer nursing students the opportunity to practice skills in a safe and risk-free environment in an immersive way. It can be accessed by multiple students, teachers or nurses at the same time from different locations in different countries.

Key messages:

- New innovative VRLE enhances nursing students' knowledge and skills that are needed when working with sick children and their families.
- International collaboration, interaction and mobilization are enabled by using a virtual platform instead of traveling, thus strengthening the co-operation in European higher educational institutes.

Abstract citation ID: ckae144.1843
Depressive symptoms among medical students

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Background: Adolescence is a period of psychological development which is associated with an increased risk of developing mental health disorders. Medical students have a higher prevalence of depression compared to the general population, but they are given low priority in the healthcare system. The aim of this study was to examine the prevalence of clinically significant scores on the Patient Health Questionnaire 9 (PHQ-9), and factors associated with clinically significant scores.

Methods: The research was conducted through a cross-sectional study among fifth-year medical students, using a 95-item questionnaire anonymously filled out. The questionnaire examined: socio-demographic and socio-economic characteristics of the students; students' lifestyles (including alcohol consumption, binge drinking, smoking cigarettes, electronic cigarettes, use any of other tobacco products); Patient Health Questionnaire (PHQ-9); International Physical Activity Questionnaire (IPAQ); Zung's Anxiety Scale; and Problematic Internet Use Scale. Based on the score on PHQ-9, the participants were classified in two groups: with clinically significant scores (score ≥ 10) and without clinically significant scores (score <10).

Results: The study included 461 medical students who completed the PHQ-9. Average score on PHQ-9 scale was 5.25±4.53 and total of 66 students (14.3%) had the PHQ-9 indicative of clinically significant depressive symptoms (PHQ-9 ≥ 10). The clinically significant depression was associated with smoking of any tobacco product (OR:3.02, 95% CI: 1.37-6.63), score on social support scale (0.94, 95% CI: 0.90-0.98), age (OR: 1.42, 95% CI: 1.06-1.90) and score on Zung anxiety scale (OR: 1.15, 95% CI: 1.16-1.34).

Conclusions: Considering that medical students, are at higher risk of developing clinically significant symptoms of depression, it is crucial to form psychological and social support programs.

Key messages:

- Monitoring the mental health of young individuals holds significant importance.
- It is crucial to detect risk factors in time and develop prevention programs.

Abstract citation ID: ckae144.1844
Leadership opportunities to mitigate challenges and barriers of precision health

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Background: Precision health, encompassing personalized and proactive health solutions, aims to address this gap by integrating genetic, behavioral, and environmental factors. However, challenges persist in its integration, necessitating new healthcare competencies, particularly in leadership, to expedite the transition. Our goal is to identify barriers and solutions for the implementation of precision health and build a core curriculum of leadership competencies to mitigate challenges and barriers for the implementation of precision health.

Methods: A systematic literature review of qualitative primary studies on barriers and facilitators to precision health implementation was conducted. Data extracted from included articles were analyzed thematically, adapting leadership competencies outlined in the CanMEDS Physician Competency Framework. This approach identified key leadership traits crucial for precision health implementation.

Results: 51 articles meeting inclusion criteria yielded 985 barriers and facilitators. Thematic analysis identified 9 primary leadership competencies essential for precision health implementation: application of quality improvement science (30%); fostering a culture of patient safety in data use (10%); advocacy for innovative data management (4%); resource allocation advocacy (9%); evidence-based cost management (4%); driving practice change (8%); prioritization and time management (11%); and optimization of healthcare workforce practices (14%).

Discussion: The synthesized leadership competencies provide a useful framework for addressing barriers and fostering precision health implementation among healthcare professionals. The high representation of competency related to quality improvement science is emblematic of how cultural elements specific to leadership and management in medicine could represent a strategic asset to foster the implementation of innovative solutions, like precision health, in healthcare.

Key messages:

- Leadership skills are a crucial element in the curriculum of health professionals to support the implementation of precision health in clinical practice.
- Incorporating elements of ‘quality improvement science’ in the healthcare professionals education emerged as essential to foster precision health implementation.

Abstract citation ID: ckae144.1845
Predicting PTSD among labour ward staff: The role of burnout, intent to leave, and emotional support

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Background: Healthcare professionals in delivery rooms frequently encounter stressful situations. Following an examination of how midwives coped and functioned during the unfamiliar and chaotic period of the Covid-19 pandemic, it is crucial to understand their challenges and the support they receive to enhance well-being and patient care. This study aimed to examine the relationship between burnout, intentions to leave, and PTSD (Post-Traumatic Stress Disorder) symptoms among healthcare professionals, and to identify predictors of PTSD.

Methods: We employed a mixed-methods design, consisting of a survey of 196 midwives and gynecologists assessing burnout, intentions to leave, exposure to negative work experiences, and PTSD. Additionally, we conducted 15 semi-structured interviews and 13 interviews with labour ward head nurses.

Results: Most participants experienced difficult events in the delivery room or multiple such events, reporting insufficient emotional support. The main themes identified were stress, fear, anxiety, and frustration. Burnout and a lack of emotional support were significant predictors of PTSD symptoms, with participants highlighting the need for more support to manage complex situations.

Discussion: Addressing burnout through prevention and intervention programs is essential. Emotional support plays a crucial role in mitigating PTSD symptoms, enhancing resilience and well-being among midwives and gynecologists. Implications for Nursing Management: Understanding the psychological impact of stressful situations on healthcare professionals is crucial for guiding policies and interventions aimed at maintaining staff psychological well-being. Midwives’ managers can leverage this research to identify actions that improve staff resilience and cohesion during crises. Strengthening the resilience of health teams is pivotal in providing optimal health services.

Key messages:

- Burnout and insufficient emotional support are key predictors of PTSD among healthcare workers in labour wards.
- Enhancing support and resilience for midwives and gynecologists is crucial for their well-being and patient care.

Abstract citation ID: ckae144.1846
General Practitioner Availability and Accessibility in Serbia Before and During the Pandemic

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Background: During the COVID-19 pandemic in Serbia, state-owned primary health centres’ general practitioners (GPs) served as the first point of care for adults (the population aged 19 years and older) and gatekeepers of the health system. The study highlights changes in the overall availability, accessibility, and workload of GPs during the pandemic.

Methods: We used routine health facility data at the national level to describe the changes in GPs over the past three years, before the pandemic (2017-2019) and during the pandemic (2020-2022). Specifically, we looked at the total number of GPs, the percentage of specialists, the average number of citizens per GP, the services used per capita, the average number of visits per GP, and the leading causes of morbidity.

Results: The study found a decrease in the total number of GPs in both periods (before: -10%, during: -9%) and in the number of specialists (before: -2%, during: -3%). During the pandemic, the average number of citizens per GP varied. In 2022, the average number of visits per GP decreased noticeably to 3557 GPs, of which 37% were specialists. In the same year, each GP received 6661 annual visits and served 1509 citizens on average. However, these figures exhibit considerable regional and geographical differences. Circulatory and respiratory diseases were the most common reasons for visiting a GP (about 14% and 13% of all visits, respectively). Up to 10% of all visits resulted in either a diagnosis of external factors that influence health status or in ill-defined symptoms, clinical and laboratory findings.

Conclusions: This study's findings underscore the critical reductions in availability, accessibility, and workload of general practitioners in the Serbian public sector and emphasize the importance of strengthening the primary healthcare system to better respond to future challenges.

Key messages:

- Public health officials should prioritize the development of effective strategies and policies that focus on improving the quality and accessibility of primary health care services in Serbia.
- A greater investment in general practice is necessary to ensure it can effectively meet the population's needs during health emergencies.

Abstract citation ID: ckae144.1847
Indicators of primary health care workforce equity for attaining health equity

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Background: Healthcare workforce crises are often the result of inequities faced by healthcare workers. This study aims to discuss the primary policy questions related to health equity regarding the primary healthcare (PHC) workforce indicators.

Methods: Following the purposive review of published literature on HWF equity in PHC services, we applied an intersectional analysis of the compendiums of HWF indicators (e.g., supply, flows, skill mix, working conditions, promotion, training, funding, governance, etc.) to strategically link them to PHC policy issues for health equity and categorized qualitatively under each policy pillar against HWF crises.

Results: The proposed indicators address the measurement of multiple dimensions of health workforce equity. These include financial and non-financial incentives to monitor worker attrition reduction, gender pay gap, fairness in employment arrangements, remuneration, and working conditions. By monitoring the minimum wage for financially vulnerable health workforce groups, we can identify the need for potential increases to support well-being, reduce turnover, and increase productivity. Equally important is monitoring equity in health workforce education, planning, and management, which is crucial for achieving population health equity. By implementing indicators of health workforce diversity to address rural and underrepresented communities, primary healthcare managers can effectively plan the reduction of their unmet needs and minimize avoidable referrals.

Conclusions: To ensure equitable access to primary healthcare, we must measure workforce equity and its impact on population health. Monitoring the indicators of equitable health workforce policies and evaluating the improvement in retention and recruitment processes can more effectively address workforce crises.

Key messages:

- Health workforce crises often stem from healthcare workforce inequities.
- Health workforce equitable policies require a clear set of indicators.

Abstract citation ID: ckae144.1848
Hospital employees' perceived racism, ethnically offensive behavior, and patient violence

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Background: Hospitals are sensitive environments with complex interactions between employees and patients. Israeli society is ethnically diverse, and Israeli hospitals reflect this diversity and may create opportunities for rapprochement between different ethnic groups or might raise conflicts between them. In radical situations, such encounters might lead to violence. The phenomenon of physical or verbal violence towards caregivers and hospital employees exists. However, the uniqueness of this study is in examining whether the origin of the violence stems from racist reactions and how offensive behavior on an ethnic background could develop into actual violence.

Methods: Data were collected through an online close-ended survey among 370 hospital employees. 83% were Jewish, 68% were female, and 38 years old on average, with a mean hospital tenure of 6.5 years. The survey explored respondents' perceived racism toward them, their exposure to offensive patient behavior based on ethnicity, and their exposure to general violence. Data were analyzed by SPSS 28.

Results: Preliminary results suggest positive correlations between study variables ($r=.42$-$.52$, $p< .001$). Regression analysis revealed that perceived racism contributed to general violence ($\beta=.43$, $p< .001$; $R^2=.19$). Next, ethnic-based offensive behavior was added to the model ($\beta=.36$, $p< .001$). The analysis shows that general violence can be explained by these variables [$F(2, 359)= 70.42$, $p< .001$; $R^2=.28$]. The R^2 of the general model increased significantly by 9.6%. The weight of perceived racism dropped yet is still significant ($\beta=.24$, $p< .001$). These results indicate that patients' ethnic-based offensive behavior partially mediates the relationship between employees' perceived racism and general violence.

Conclusions: The results suggest that employees who suffer from racism experience patients' offensive behaviors based on ethnicity, which finally results in higher exposure to general violence in the workplace.

Key messages:

- Understanding the phenomenon of violence in hospitals and examining the relationship between it and racism may amend policy and improve the quality of care and working conditions in the health sector.

- The hospital environment involves diverse groups of society. Hence, the awareness of offensive behavior on an ethnic background is a condition to reduce racism and violence proactively.

Abstract citation ID: ckae144.1849
Infodemic management in higher education: Mapping opportunities at the University of Belgrade

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Background: Effective infodemic management (IM) requires a multidisciplinary approach and the use of various skills originating from natural, social, and medical sciences. Personnel involved in IM activities have diverse backgrounds from medical doctors and data scientists to communication specialists and journalists. However, the IM framework is rarely introduced into the existing teaching programs, compromising the training of a competent workforce.

Objectives: Our goal was to identify opportunities for integrating the IM framework into the existing teaching programs at the University of Belgrade. A team of researchers reviewed the curricula of 31 faculty and identified the courses that already covered IM skills or had the potential to include them in their teaching programs. The research was conducted as part of the U.S. Federal Assistance Award within the University Partnership Program between Emory University and the University of Belgrade.

Results: After conducting independent reviews and reaching a consensus, over 40 different courses and/or teaching programs have been identified to include or could potentially integrate IM skills and competencies. These courses are found across all major academic clusters (natural sciences and mathematics, technology and engineering, medical sciences, social sciences, and humanities). Faculties of medicine, pharmacy, and dentistry lead with the number of courses and interested teaching staff, followed by social sciences (psychology, sociology, political science). Most of the identified courses are related to information, data science, and communications.

Conclusions: There is a promising opportunity to introduce IM skills into the current teaching programs at the University of Belgrade. Faculties from the medical sciences group have a solid potential to lead such a process. Collaborative efforts are needed to establish comprehensive teaching programs to ensure a competent public health workforce and certification.

Key messages:

- University of Belgrade has the potential to introduce infodemic management skills into its existing teaching programs, respecting the multidisciplinary nature of this discipline.
- Medical and social sciences faculties can lead the process of mainstreaming infodemic management in their curricula, ensuring a competent public health workforce and certification.

Abstract citation ID: ckae144.1850
Burnout as a multidimensional phenomenon: How can workplaces be healthy environments?

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Purpose: Burnout was already a significant problem before the pandemics, but in the aftermath became a serious concern and a public health and occupational health priority. This study had two aims. First, it investigated how different healthy workplace dimensions and other health individual-level variables are related to burnout. Second, it examined differences in terms of presentism, absenteeism, quality of life between employees who report burnout symptoms and those who do not.

Methods: Participants were 1702 Portuguese employees from various organizations. 69.68% were female, age ranged from 18 to 72 years (M = 43.25 years, SD = 10.40). Almost half of the participants (49.9%; 851 participants) reported having at least one burnout symptom.

Results: Participants reported that they have felt exhausted (43.7%), irritated (34.5%) and sad (30.5%) always or very often in the last 4 weeks. Regression analysis revealed that the global score on burnout symptoms was negatively related to leadership engagement, psychosocial work environment, personal health resources, health behaviours, and satisfaction with salary. In addition, the global score on burnout symptoms was positively related to worker involvement, enterprise community involvement, perceived stress, and screen time at work. Furthermore, females tend to report a higher level of burnout symptoms compared to males. In addition, burnout has an impact on sickness absenteeism, presentism, and quality of life.

Conclusions: Our findings have an important contribution to understanding and promoting a healthier work environment and reinforce the need for measures and policies to promote mental health, manage stress, and prevent burnout in the workplace.

Key messages:

- What best explains the burnout symptoms is the workers' perceived stress, followed by psychosocial risk factors at work.
- There is a positive relationship between perceived stress and burnout: effective work stress management is one of the protective factors that prevents burnout.

Abstract citation ID: ckae144.1851
Self-reported mistreatment of Danish medical students

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Background: Evidence suggests that mistreatment of medical students (MS) exists and that it is associated with stress, anxiety, burnout, substance abuse etc. Mistreatment encompasses discrimination and sexual harassment and impacts MS' ability to partake their education with increased risk of dropout. The aim of the study is therefore to explore whether Danish MS and junior physicians enrolled in the Clinical basic education (CBE) have experienced mistreatment during their studies.

Methods: An online survey was conducted by email and sent to 5234 MS enrolled in one of four medical Master programs in Denmark or in the CBE. Reminders were distributed by email, shared in Facebook groups, and presented during lectures, accompanied by cards with QR codes for the survey. Data collection took place during spring 2023 and 645 completed the questionnaire giving a response rate of 12 %. The questions were based on the

Everyday Discrimination Scale. Descriptive statistics and multivariate logistic regression were used for data analysis.

Results: MS most often encounter mistreatment from physicians, other health professionals and patients during their clinical internships. They also encounter mistreatment from lecturers and peers. MS who self-identify with another ethnicity than Danish/European were 3.2 times more likely than MS identifying with Danish/European ethnicity to report mistreatment from other students (95% CI 1.76 -5.95). Men were also less likely than women to report mistreatment. The mistreatment reported by MS is predominantly based on gender, ethnicity, religion, and age. The most frequent experiences are stereotypical statements (71,8%), lack of respect (65,1%) and being ignored (54,1%).

Conclusions: Our results indicate that Danish MS experience mistreatment, which can potentially impact their mental health. These results underscore the need for targeted interventions to create an inclusive educational environment that fosters the well-being and success of MS.

Key messages:

- Danish medical students often face mistreatment from peers and health professionals, and more often reported by woman and students identifying with ethnic backgrounds other than Danish/European.
- Action by University management is needed to implement targeted interventions such as diversity training, as mistreatment can negatively impact students' mental health and educational outcomes.

Abstract citation ID: ckae144.1852
Experts in promotion and prevention - The 100th Anniversary of Finnish public health nurse education

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Issue/Problem: Two key public health issues at present are mental health problems and obesity. Both typically begin before adulthood and once occurred, typically persist. Prevention would be important but also economically and humanely sensible. For this, competent experts in preventive work and health promotion are needed.

Description of the problem: Public health nurse education, originally known as health sister education, was initiated in Finland in 1924, by the Mannerheim League for Child Welfare. The six-month health sister education was targeted at nurses and began from the desire to focus not only on treating diseases but also on promoting health. In the 1940s, education was reformed and in the 1950s significantly expanded. In the 1970s, the professional title changed from 'health sister' to 'public health nurse'. In 1987, the education was extended to 3 years, including the education of registered nurses. In 1992, the education was further extended to 3.5 years. By the beginning of the 21st century, education evolved into 4 years bachelor's degree.

Results: In 2024, eighteen Universities of Applied Sciences provide public health nurse education in Finland. The 4-year Bachelor of Health Care in Public Health Nursing -degree (240 ECTS credits) also qualifies for a registered nurse. Nearly half of the education consists of clinical training. In addition, registered nurses can supplement their degrees by completing a one-year education (60 ECTS credits) that qualifies them as public health nurses.

Lessons: In Finland, approximately 700 new public health nurses graduate annually. They are trained to work independently as experts in preventive work, health promotion, and public health. Around 9,500 Finnish public health nurses work in settings such as maternity and child health clinics, school health services, occupational health care, and outpatient clinics.

Key messages:

- Due to the overcrowding in many healthcare services providing treatment, educating experts in health promotion and disease prevention is crucial now and in the future.
- By ensuring competent experts in health promotion and disease prevention, future healthcare services can continue to provide economically and humanely sensible and effective help for people.

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Perception of stress among healthcare workers in hospitals in Belgrade during COVID-19 pandemic

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Background: The COVID-19 pandemic has affected healthcare institutions and workers, exposing them to unfamiliar and hazardous conditions, increased workloads, and changing directives. This has led to work-related stress, resulting in burnout, depression, anxiety disorders, and other health issues among healthcare workers.

Methods: This cross-sectional study utilized an anonymous questionnaire with closed-ended questions. To assess stress levels among healthcare workers, a Likert-type scale was used. Over 6.000 healthcare workers completed the questionnaire in 2022. The relationship between the dependent variable (perceived stress level) and predictors was modelled using generalized ordinal univariate and multivariate logistic regression.

Results: Almost a third (30.7%) of respondents felt a very high amount of tension, stress, or pressure while performing their jobs under the conditions of the COVID-19 epidemic, while 422 (6.8%) did not feel tension, stress, or pressure at all. In the multivariate logistic regression model, statistically significant predictors of higher levels of perceived stress in the conditions of the COVID-19 epidemic include female sex (OR = 0,80), older age (OR = 1.19), being in a managerial position (OR = 1.32), lower satisfaction with available work time (OR = 0.82), patient relations (OR = 0.81), financial compensation (OR = 0.83), and cooperation with colleagues (OR = 0.93).

Conclusions: Through the identification of potential stress predictors, valuable insights are gained to aid policymakers in the planning and enhancement of healthcare personnel's work during pandemics, as well as in situations characterized by heightened stress levels.

Key messages:

- These findings emphasize supporting healthcare workers during the pandemic.
- Strategies for reducing stress should be directed towards healthcare professionals who experience higher stress levels.

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Elective placements for medical students in a regional Public Health Department in Ireland

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Exposure to different specialties during medical school influences the subsequent career choice of students. We describe the development of elective student placements in Public Health in a regional Public Health Department (PHD) in Ireland which serves a population of just over one million. In September 2023, a collaboration to oversee the electives was established between our PHD (HSE Dublin and Midlands) and an academic institution (Trinity College Dublin (TCD)). An Elective Working Group (WG) was formed which developed learning objectives and an elective plan. The electives were scheduled for October and November 2023. The key learning objectives were for students to: • Develop an understanding of the role of Public Health across all domains, in our regional PHD and in Ireland; • Develop an understanding of the career pathway in Public Health Medicine in Ireland; • Contribute to a public health project within the PHD. The elective plan included approximately 15 1:1 tutorials across the public health domains, attendance at PHD meetings and a literature review-based project. Between October and November 2023, two students (one per month) were attached to the PHD. At the end of each elective, students presented project findings to the WG for discussion. Debrief sessions gathered feedback from the students, the WG and the TCD partner. Student feedback was overwhelmingly positive. Feedback suggested taking pairs of students at the same time may increase efficiency and capacity for future electives in our PHD. A collaborative approach to planning and coordinating the electives was crucial to its success. We are building on this experience to expand the electives with an increased number of students being facilitated by our PHD in 2024, providing students with greater opportunity to gain exposure to Public Health Medicine during medical training. Application and evaluation materials were refined which can be shared.

Key messages:

- The success of the Public Health electives in our regional Public Health Department was underpinned by a collaborative academic partnership and a structured, coordinated approach.
- Availability of Public Health electives during medical school training can support students to gain exposure to this specialty in a time when they are considering future career choices.

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Honors Track in Global and Occupational Health: a students' perspective from Humanitas University

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Background: To meet an increasing interest in global health, more opportunities for medical students should be created. Humanitas University (Milan, Italy) has debuted a new extracurricular activity called "Honors Track in Global and Occupational Health" (HT-GOH), to allow students critical insights into the field at the beginning of their career.

Objectives: HT-GOH is a two-year programme, led by expert professors in the field. The main aim is to circumvent limitations of global health education at individual institutions, achieved through a combined presence and online approach that allows for international collaboration with experts and attendance of online lectures and travel abroad for practical experiences. Complemented by monthly meetings, participation to workshops, seminars, conferences, and the discussion and literature review of crucial global health topics.

Results: The six participating students are actively promoting discussions, exchange of ideas, and literature findings on many global health issues. They audited courses in other universities and are building connections within the field. The active involvement of the students and their increasing interest in the global health debate can be seen by their participation in this abstract and the conference. The effectiveness of the programme is being evaluated through monthly feedback by students.

Conclusions: The programme allows for an initiation to research work, promoting collaboration between students and exploration of a variety of topics under the guidance of experts. The nature of a specific programme allows for a more individualized approach and greater development of skills unique to each student. This HT represent a valid approach to global health education, especially in settings in which this field is only taught in the context of a public health course.

Key messages:

- A new programme at Humanitas University offering an innovative approach to the field of global health to interested students.
- The students' perspective towards an integrated approach to global health in medical schools.

Abstract citation ID: ckae144.1856
Opportunities for nursing and midwifery research in Bulgaria

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Background: The training of nurses and midwives today is at university level and follows established standards. The 2009 Global Standards for the basic nursing and midwifery education of the World Health Organization requires that the curricula should include basic knowledge and skills for scientific research to implement evidence-based health care. In Bulgaria, scientific research among nurses and midwives began in 2000 and has seen more serious development in the last 5 years.

Methods: A content analysis of normative documents was carried out, to regulate the conduct of scientific studies and the curricula for the two specialties.

Results: In all documents on the activities of graduate nurses and midwives, activities related to conducting scientific studies are regulated. No mandatory discipline for these competencies is included in the basic education. In Bulgaria, there is a bachelor's and master's program only in Health Care Management, in which sociology, statistics, and research methodology are studied. From 2000 to 2016 nurses and midwives defended doctoral dissertations in a program for medical doctors. The first doctoral program for nurses and midwives is from 2016. There are no legal norms for stimulating and provide conducting clinical research, and to ensure evidence-based practice by nurses and midwives.

Conclusions: The normative regulation of scientific activity among nurses and midwives in Bulgaria corresponds to international and European requirements, but the opportunities for training are limited. The responsibility of nurses and midwives to modern society is to ensure high quality in health care provided by: a. providing opportunities for clinical studies; b. implementation of evidence-based health care and practice; c. developing programs for training for research in health care.

Key messages:

- In Bulgaria, there is a legal norms for conducting nursing research, but not for evidence-based practice.
- There is a need for more opportunities to train and encourage clinical nursing research.

Abstract citation ID: ckae144.1857
Preferences regarding the Booster Dose of Covid-19: a cross-sectional study in Central Italy

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Background: Examining information sources, communication channels, and preferred content formats is crucial for adapting and improving future communication strategies in vaccination campaigns. This study aims to evaluate the information and communication preferences regarding the booster dose of Covid-19 among employees of the Central Tuscany Local Health Authority (CT-LHA).

Methods: From July to October 2022, a questionnaire was administered to 7,000 out of approximately 15,000 CT-LHA employees. The questionnaire analyzed communication, organizational, and access aspects regarding preferences for the Covid-19 booster dose. The sample was stratified into healthcare workers (HCWs) and non-healthcare workers (NHCWs). Chi-squared tests were performed using STATA, with the significance level set at 95%.

Results: The returned questionnaires were 1,885 (26.9%), with the majority being HCWs (64.4%). HCWs rated the quality of communication significantly lower compared to NHCWs, who rated it very high ($p < 0.05$). HCWs also rated the ease of booking the Covid-19 booster dose and access modalities to vaccination significantly lower than NHCWs ($p < 0.05$). NHCWs expressed a preference for receiving scientific information from Ministry of Health tutorials, while HCWs preferred information from their general practitioner ($p < 0.05$). HCWs preferred to receive organizational information from healthcare management, while NHCWs preferred information from vaccination physicians ($p < 0.05$). Additionally, HCWs preferred company operating procedures for disseminating information, whereas NHCWs preferred corporate communications circulars ($p < 0.05$).

Conclusions: HCWs and NHCWs showed differences in perceived quality of communication, ease of access to vaccination services, and preferred sources of information. HCWs rated the quality of communication and access to vaccination services lower than NHCWs. This results suggest the need for tailored communication strategies to effectively reach both groups.

Key messages:

- Health organizations need to develop targeted communication approaches that address the specific needs and preferences of their employees.
- Flexibility and adaptability are crucial to adapt communication methods and channels to strengthen vaccination initiatives and promote public health outcomes.

Abstract citation ID: ckae144.1858
Addressing the complexities of evaluating comprehensive sexuality education: an Italian case study

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Background: Existing evaluation methods for assessing sexuality education programs may not be suitable for Comprehensive Sexuality Education (CSE) interventions, which are globally indicated as the most effective approach for promoting sexual health and preventing STIs. This holds particular significance in countries, such as Italy, where CSE is not integrated into school curricula. In a pilot project funded by the Italian Ministry of Health since 2019 (EduForIST), we aimed to develop a composite evaluation framework to test the CSE intervention we implemented in lower and upper secondary schools over the past 4 years.

Methods: Based on the latest available evidence, evaluating a CSE intervention requires addressing various dimensions. These include assessing the quality of programs and their implementation, as well as measuring outcomes and impact. Through iterative consultations with experts and providers, methods, criteria, and metrics were chosen and tested for each dimension.

Results: Program quality was evaluated by an expert advisory board. Instruments for implementation quality assessment included: satisfaction survey among students; reflective journals and SWOT analysis drawn up by educators delivering intervention, exploring their perceptions, practices, and attitudes; surveys among teachers and parents, measuring knowledge, attitude, and practice on CSE, and observed changes among adolescents. A four-arm, Solomon, cluster design study was designed to evaluate outcomes in terms of changes in students' knowledge. Clinical and behavioral indicators in the short, medium and long term were selected as measures of the impact of the intervention.

Conclusions: In the field of CSE implementation research, a multi-component approach to evaluation is needed to provide a solid basis for informing policymakers. The involvement of providers, recipients and contextual adults is essential in evaluating CSE interventions. However, assessing long-term impact requires long time frame.

Key messages:

- Assessing CSE interventions requires a multi-component evaluation approach, considering the impact on the personal and emotional development of individuals in order to sustain behavior changes.
- The proposed evaluation framework may inform scientific community, professionals, and decision-makers on effectiveness of interventions in settings where CSE is not yet included in school curricula.

Abstract citation ID: ckae144.1859
Organizational peer support for second victims in Vienna, Austria: The KoHi-project

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Background: Healthcare workers negatively affected by adverse events are known as Second Victims (SV). The Second Victim Phenomenon (SVP) is widespread globally and can result in various consequences, such as anxiety, loss of confidence, and defensive medicine. To address this, the KoHi-project offers organizational peer support for SVs at the Clinic Hietzing (KHI) in Vienna, Austria.

Methods: A five-hour training program prepared 122 volunteers as peer supporters (KoHis) at KHI. Initial assessment (KoHi-I) in 2019 using the SeViD-questionnaire was followed by a repeat (KoHi-V) in 2022. Additionally, peer supporters underwent quantitative evaluations after training (KoHi-II), each session (KoHi-III), and after three sessions (KoHi-IV). KoHi-I-III were descriptively analyzed, while KoHi-IV and -V await evaluation.

Results: Initial study showed a 43% SVP prevalence at KHI. Most KoHis joined for ethical reasons and skill improvement, displaying high motivation. Post-training, they reported increased competency in supporting SVs. KoHi-III showed 53.3% of sessions initiated by KoHis, often triggered by personal distress. KoHis rated their support as highly helpful ($M = 8.57$ on a ten-point Likert-scale) and felt minimal burden ($M = 3.42$ on a ten-point Likert-scale) afterward. No significant correlations were found.

Conclusions: SVP is widespread at KHI. The five-hour training adequately prepared KoHis. Underreporting or underutilization of the program is suspected, possibly due to self-stigmatization of SVs. Being a peer supporter appears safe for KoHis. Psychological safety of voluntary supporters should be prioritized in hospital peer support programs. European hospitals lack organizational support for SVs, highlighting the importance of interventions like KoHi.

Key messages:

- The SVP is common among healthcare workers at KHI.
- The implemented organizational peer support seems to not negatively impact the voluntary peer supporters' wellbeing.

Abstract citation ID: ckae144.1860
Factors influencing emigration decisions among Bulgarian health professionals

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Background: Migration patterns of health professionals are influenced by a variety of factors, including personal, economic, social, political, and cultural ones. This study aims to investigate the factors that influence the emigration decisions of both Bulgarian health professionals who have been abroad and those without such experience.

Methods: A cross-sectional study was conducted in 2022 using an online questionnaire among 447 health workers in Bulgaria. The influence of factors on health professionals' decision to migrate was measured on a 4-point scale (from "no influence" to "very strong influence"). The factors were grouped into three levels - macro (country and health system), meso (health facility) and micro (individual). Mann-Whitney U test was used to examine differences between the two groups of health professionals at a 0.05 significance level.

Results: At macro level, a higher standard of living in the destination country was the primary factor influencing the emigration decisions of the individuals who have been abroad ($n = 109$), with a mean value of 3.62 ($p < 0.001$). Conversely, the opportunity to work in a better-organized health system was the predominant motivator for those without such experience (3.36, $p < 0.035$). At meso level, remuneration received (3.70, $p < 0.001$) was the most significant driver for the individuals with a migration background, while better working conditions (3.31, $p < 0.006$) had the strongest influence for the other group. At micro level, both groups agreed on the importance of enhanced recognition of the medical profession abroad (3.69 vs. 3.49, $p < 0.013$) as a key determinant.

Conclusions: On the whole, health professionals with no migration experience exhibited lower mean values for the observed factors. Furthermore, economic drivers appeared to be more significant for respondents with a migration background, while the other group attached greater importance to the motives related to the health system and the profession.

Key messages:

- Health workers migrate for a variety of reasons with economic motives playing a pivotal role in shaping migration decisions.
- Recognizing the motives that predominantly impact migration attitudes is a crucial step in the development of appropriate retention policies.

Abstract citation ID: ckae144.1861
Unveiling pharmacogenomics: insights from Portuguese pharmacists on quaternary prevention

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Background: Public health genomics recognises the potential of genomic knowledge for enhancing population health. Adverse drug reactions (ADR) and lack of efficacy have significant clinical and economic burdens, which can be mitigated by pharmacogenomics (PGx) testing. Pharmacists can play a vital role in facilitating the implementation of PGx into routine clinical care. This will promote quaternary prevention, to protect individuals from medical intervention that can cause more harm than good.

Objectives: To assess attitudes, opinions, expectations, practices, and concerns of Portuguese pharmacists regarding PGx implementation.

Methods: An observational cross-sectional web-based survey was developed based on literature review, adapted to the national context, and validated in a focus group. The target population were adults residing in Portugal with a degree in Pharmaceutical Sciences or equivalent, with convenience sampling. Descriptive statistics were performed.

Results: From 303 participants, 98% believe that PGx is an important area of pharmaceutical sciences and 97% indicate that PGx should be included in continuing education. Almost all (99%) anticipate that PGx implementation will prevent the administration of ineffective drugs and inappropriate doses, 98% expect PGx will reduce ADR. Major concerns are related with direct-to-consumer sale of PGx tests via internet (78%) and unauthorized access to test results (91%). Currently, 25% are familiar with reliable sources of information on PGx, but only 11% feel qualified to recommend PGx testing, and 10% have analysed PGx reports.

Conclusions: There are positive opinions and expectations regarding the potential benefits of PGx tests. However, there are regulatory concerns and lack of readiness for immediate application. Pharmacists express interest in learning more about PGx, highlighting the need for continuous education and training to integrate it effectively into routine pharmaceutical practice.

Key messages:

- Pharmacists recognize the benefits of PGx implementation for quaternary prevention.
- Regulatory concerns and readiness gaps in PGx emphasise a need for training and life-long education of pharmacists.

Abstract citation ID: ckae144.1862
Diversity challenges in German nursing teams: a participatory organizational development approach

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Background: Migration of health care professionals, demographic change and the transformation of the health care system result in highly diverse nursing teams in German hospitals and nursing homes. Different orientations (regarding qualification, generation or migration background) collide in a working environment characterized by staff shortage, time pressure and decisions about life and death. But team cooperation not only has a strong impact on patient safety, but on job satisfaction and therefore retention management. Little is known on how teams cope with diversity challenges and how this is linked with organizational structures.

Methods: Based on qualitative content analysis of 197,5 hours of participatory observation, 8 group discussions and 25 interviews in 6 nursing teams in 2 hospitals and 2 nursing homes situated in a major German city, we developed workshops on the topic of team diversity and cooperation. 10 workshops (4-16 participants each) were in held in 2023/24 both on team- and management-level.

Results: All teams are struggling with diversity-related problems, but in their specific ways, depending on the particular neighbourhood of the facility and team composition among other things. Due to the strong team spirit and identity, the teams have a fundamental tendency to integrate diverse perspectives and orientations. But they need time capacities and supportive organizational structures. The workshops created a space to discuss the team specific problems. Starting points for structural changes could be identified and further discussed in the workshops at the next higher hierarchical level.

Conclusions: Organisational structures provide the framework conditions that enable teams to integrate different perspectives resulting from diversity in a productive way. One-fits all solutions are not suitable to address those problems and improve teamwork. A participatory bottom-up process seems to be the most appropriate approach.

Key messages:

- Institutions need to provide structures in which diversity is not perceived as an additional burden.
- The best way to initiate improvements is through a participatory bottom-up approach.

Abstract citation ID: ckae144.1863
A healthcare workforce assessment model using reimbursement data in Luxembourg

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Background: The assessment of the healthcare professional (HCP) headcount and level of activity is a real challenge for policy makers. In Luxembourg, there is no uniform definition of practicing HCP. This work focused on identifying a method to assess HCP headcount and their level of activity in Luxembourg, while finding national consensus.

Methods: A thorough literature review was conducted to find methods that assess practicing HCP and identify their level of activity. Eligible were scientific papers or national reports discussing methods on employed and self-employed HCP. National reimbursement data were used for preliminary data explorations conducted alongside the 'General Inspectorate of Social Security' in Luxembourg and discussed with the 'Institut national d'assurance maladie-invalidité (INAMI)' in Belgium. Two working groups were planned with national stakeholders to discuss HCP assessment methodologies. Both the collaborations and the working groups led to a preliminary validated HCP assessment method. To reach national consensus, a Delphi study is planned in June 2024, using the eDelphi.org platform. Invited panelists include researchers, professionals, healthcare practitioners, decision makers and policy makers, patient representatives, and insurers.

Results: The literature review found 16 eligible papers on HCP headcount and HCP' level of activity. Finally, the Belgian method, developed by experts from INAMI, using reimbursement data and establishing a median reimbursement for each medical specialty was retained for Luxembourg. The results of the Delphi study will inform on the level of agreement on relevance, clarity and completeness of the proposed methodology for Luxembourg.

Discussion: Finding national consensus represents a strong foundation for efforts to advance the use of the proposed methodology in healthcare workforce assessment and planning.

Key messages:

- Counting something as simple as healthcare professionals requires a strong methodology that held the buy-in of all major stakeholder.
- As working behavior of HCP evolves over time, it is crucial to not only count professionals but also full-time equivalents for policy makers to plan ahead in an accurate manner.

Abstract citation ID: ckae144.1864
Which diversity factors influence the attribution of competences and co-operation in nursing teams?

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Background: Diversity within nursing teams increases due to staff shortages in Germany, nurse migration and the current academization of the profession. Quality of patient care is associated with intraprofessional teamwork. Little is known about how nurse's own diversity factors and those of team members impact nurse's perception and behavior in team situations.

Methods: A quasi-experimental, cross-sectional study with a factorial online survey with fictional case studies (vignettes) was conducted in two German hospital operators in 2023. Nurses of legal age working in hospitals or nursing homes were eligible to participate. Associations of diversity factors, i.e., gender, age, migration background, and qualification, on the participant and vignette level on perceived competences and willingness to cooperate were preliminary analyzed via multi-level fixed effects models in SPSS.

Results: $N = 684$ nurses participated (76% female; mean age: 44.2 years; 88% born in Germany; 75% completed vocational training). Competency of team members in patient's personal hygiene was rated higher by respondents born in Germany (.36), when fictional colleagues were of middle age (.06) compared to higher age and were from Germany (.22) or France (.08) compared to China. Competency in inserting infusions was rated higher by respondents born in Germany (.56), when fictional colleagues were from Germany (.29) or France (.20) compared to China and when one worked together for months compared to days (-.39). Willingness to swap shifts was affected by the fictional length of collaboration (-.08). All significance levels were $p<.02$.

Conclusions: How nurses perceive their colleagues' competences is mainly influenced by their own and the other's migration background, while willingness to cooperate is only affected by length of collaboration. Improving the onboarding process of new nurses in teams, and providing the time and space for professional exchange might improve mutual trust and teamwork.

Key messages:

- Diversity in German nursing teams increases due to nurse migration and plurality of qualifications.

- Facilitating professional exchange about individual competences might improve team work in nurses.

Abstract citation ID: ckae144.1865
Empowering Educators: Integrating Sustainable Health in Healthcare Professionals' Training

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Despite efforts to realize Agenda 2030, the sustainable development goals (SDGs) may not be achieved. This already now impacts public health and healthcare, including the training of providers. "Sustainable health" addresses this urgency by emphasizing health as key to achieving the SDGs. While the UN developed a competency framework for teachers in 2011, the specific competencies needed to train in sustainable health remain unclear. Transformative learning (TL) is crucial to integrating sustainable development in higher education (HE), yet its application in the education of health professionals is limited. TL entails a profound transformative journey that reshapes perceptions and experiences, necessitating a shift in the educator's role from information provider to facilitator of transformative processes. According to a 2019 literature review on TL for healthcare students, teachers need detailed and practical guidelines on how to implement TL. We aimed to develop an evidence-based matrix outlining a) the educational strategies needed to ensure that students develop sustainable health competencies, and b) the competencies teachers need to use these strategies in a quality-assured way. We conducted a literature review to identify key dimensions of teacher competencies and educational strategies for sustainable health. We surveyed teachers at Karolinska Institutet to assess the relevance of these competencies and teachers' confidence in using them. Focus group discussions were conducted, to explore barriers and enablers to develop competencies and use educational strategies. We present a competency framework for HE teachers, accompanied by recommended educational strategies and self-assessment tools to gauge further training needs. To be used by teachers and educational developers, it will be openly accessible in Swedish and English. This study contributes to enhancing competencies in training health professionals to contribute to achieving sustainable health for all.

Key messages:

- Educators need to be equipped with competencies to lead transformative learning processes to enable future generations of health professionals to achieve sustainable health for all.
- Educators need to be supported to transform their role and practice to provide relevant training for future health care providers.

Abstract citation ID: ckae144.1866
Global health education in Europe: an insight into the student's perspective

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Background: As the world grows ever connected, more importance is placed on aptness in Global Health. For medical students, incorporating social, environmental, cultural, and global issues in the curriculum is pivotal to their success as future medical professionals. In spite of this, students are dissatisfied with ongoing pedagogy. In review of existing evidence, we discovered that there is no set standard for European medical schools to follow in Global Health teaching. This is evidenced by variation in the course requirement and in the topical content covered. Consequently, students have self-perceived and actual gaps in their Global Health knowledge. Another point highlighted in our research was that despite the importance students have placed on Global Health education, they have viewed it as less relevant in comparison to other aspects of Medicine. To improve this lack of engagement, students have made suggestions that could potentially have a positive impact on teaching methods if they were to be implemented.

Objectives: Our background review and evidence gaps inspired us to conduct an online survey in our university. Examining this, together with reviewing existing evidence on student opinions and experiences from all over Europe, will give us the opportunity to uncover student sentiment towards Global Health education.

Results: Our survey is underway; its results will be discussed in our presentation.

Conclusions: In analysing existing survey results and in executing a survey in our medical school, we have gained some insight and understanding into the perspectives, knowledge gaps, and suggestions of medical students as concerns their Global Health education in Europe. These should be considered in forming and refining the Global Health curriculum of European medical schools.

Key messages:

- Explore the attitudes and opinions of European students towards Global Health education.
- The medical student's perspective should be considered to guide a better-suited education in Global Health across Europe; this is of the utmost importance in a now globalised world.

Abstract citation ID: ckae144.1867
Public health resilience and recovery in Ukraine: Academic partnerships to improve population health

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Background: Strengthening the public health workforce is among top priorities for the transformation of Ukraine's public health system. As part of the USAID Public Health System Recovery and Resilience Activity, an Academic Partnership Collaborative brought together three Ukrainian universities (National University Kyiv-Mohyla Academy, I. Horbachevsky Ternopil National Medical University, Sumy State University), two American universities (Temple University and Drexel University), and the All-Ukrainian Association of Public Health Specialists (UPHA) to enhance the competencies of public health graduates in Ukraine.

Objectives: The collaborative focuses on strengthening the Ukrainian universities' public health curricula and the teaching and research competencies of the Ukrainian faculty, making the curricular changes in Ukraine better aligned with US and European academic standards. The university partners are collaborating with the newly established UPHA in building partnerships with peer organizations in the US (American Public Health Association) and Europe (EuPHA) and sharing advancements in public health education with the broader community of public health practitioners in Ukraine to enhance their competencies to improve population health and align with European systems of public health.

Results: We have established linkages among all partners via an initial meeting in Uzhhorod, Ukraine in April 2024. We anticipate results by November 2024 to include curriculum review recommendations, coaching on prioritized topics for the Ukrainian partners, faculty development plans, and the establishment of continuing professional development programs in collaboration with UPHA.

Conclusions: Through this partnership, selected Ukrainian universities will have an enhanced and sustainable capacity to train the public health workforce and will become leading examples for other public health programs to simulate and collaborate with beyond the project.

Key messages:

- Ukraine's resilience and recovery relies upon the strength of the current and future public health workforce; mechanisms for building public health training are essential to a healthy population.
- A collaborative process of strategic activities among American and Ukrainian universities and professional associations can be effective in building a resilient public health system in Ukraine.

Abstract citation ID: ckae144.1868
Analysis of medical doctor supply in Bulgaria, Croatia, Romania, and Serbia in the last two decades

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Introduction: The shortage of medical doctors in Europe has become a priority issue, especially in the Eastern European region, where many countries are making large investments to ensure adequate supply. Training future medical professionals is a lengthy and costly process that significantly impacts healthcare accessibility and quality. As part of the project of the Laboratory for Strengthening Capacity and Performance of Health System and Workforce for Health Equity, we aimed to assess the changes in the medical doctor supply in several Balkan countries over the last two decades.

Methods: Data on the total number of graduated medical doctors (MD) and their rate per 100,000 population from 2000 to 2021 was retrieved from the Eurostat database. This open-access database contains the reported number of students who have graduated from medical schools for each year and selected countries (Bulgaria, Croatia, Romania, and Serbia). The standard methods of descriptive statistics were used to perform the analysis.

Results: During the observed period, the number of MDs graduating annually and their rates per 100,000 population have increased in all countries. Romania leads with the highest rate of MD graduates at 26.18 per 100,000 people, followed by Bulgaria (22.74), Serbia (19.15), and Croatia (16.56). From 2000 to 2021, Bulgaria experienced the highest increase in the number of medical doctor graduates, with a rise of 169.1% in absolute numbers and 200.9% in rate. In contrast, Serbia had the lowest increase, with only a 135.5% rise in the total number of medical doctor graduates and a rate increase of 152.3%.

Conclusions: In the last 20 years, Bulgaria, Croatia, Romania, and Serbia have seen an increase in the number of MD graduates and their rate per 100,000 population. Policymakers should consider the investments and education trends of medical professionals in relation to their employment and migrations to predict the future supply of doctors in this region.

Key messages:

- Bulgaria, Croatia, Romania, and Serbia have seen an increase in the number of MD graduates and their rate per 100,000 population in the last twenty years.
- Considering the trends in the number of newly graduated doctors, policymakers should address additional factors to ensure an adequate supply of medical doctors.

Abstract citation ID: ckae144.1869
Strengthening youth mental health capacities in Albania: Training primary healthcare professionals

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Background: Addressing mental health issues among children and adolescents globally is crucial, necessitating interventions at the primary healthcare (PHC) level. The training programme in Albania equipped PHC professionals with skills for early identification, support, and referral for youth mental health issues. Given the global prevalence of such challenges, our intervention serves as a valuable model for enhancing mental health services in communities.

Objectives: The training aimed to develop the capacities of Albanian PHC professionals in improving mental health and psychosocial wellbeing among youth. Through innovative training sessions using participatory action methods, it was sought to answer key questions: How can Albanian PHC professionals better identify and support youth mental health issues? What innovative approaches can enhance mental health training for Albanian healthcare personnel? How can community engagement be strengthened to support youth mental health initiatives in Albania?

Results: Following the programme, 525 healthcare professionals in Albania received training, showing improved knowledge and skills in youth mental health support. They emphasized the importance of community engagement, standardized documentation, and specialized mental health services. Preliminary results indicate increased awareness and readiness among Albanian PHC professionals to address youth mental health needs.

Conclusions: The programme underscores the significance of equipping Albanian PHC professionals with comprehensive skills to tackle youth mental health challenges. Lessons learned have broader implications for strengthening mental health services globally, emphasizing collaboration, standardized protocols, and targeted interventions.

Key messages:

- Strengthening PHC capacity in Albania improves early identification and support for youth mental health, enhancing overall wellbeing.
- Tailored training and community engagement are vital for effective mental health interventions at the grassroots level in Albania.

Abstract citation ID: ckae144.1870
A Good Practice for Learning with Public Health Professionals Globally: Humphrey Fellowship Program

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Background: International collaborations are valuable yet often undervalued assets that enhance the quality of public health education and bolster the development of the public health workforce.

Objectives: The Humphrey Fellowship Program, part of the Fulbright Exchange Program, facilitates mid-career professionals' visits to US-based host universities for an academic year. Fellows engage in a semi-structured fellowship period to achieve self-defined goals, emphasizing professional development, expanded experience, and intercultural exchange. This study advocates for the program's contribution to enhancing public health education.

Results: Currently, two universities host fellows in public health. Over decades, fellows have engaged with faculty and professionals, participated in classes and meetings, visited institutions for development purposes, and completed US-based affiliations, contributing significantly to their own and the public health workforce's advancement. This interaction-based learning approach aids in navigating social and ethical challenges by fostering a deeper understanding of public and global health issues across countries.

Conclusions: The Humphrey Fellowship Program in public health stands as a commendable model. Similar initiatives could be beneficially replicated in the European region, leveraging local and global successes to strengthen ties with public health education institutions, student communities, and beyond.

Key messages:
- Programs that facilitate international interactions can enhance public health professionals' understanding of global perspectives.
- The Humphrey Fellowship Program in the US stands as a commendable practice for mid-career public health professionals, contributing significant value to the education at host universities.

Abstract citation ID: ckae144.1871
How to rank schools of public health? The PHAR project

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Background: Since the shattering and abrupt withdrawal of several Ivy League universities from ranking systems in 2022, the debate on rankings has been raging in the academic world and beyond. Despite this, rankings have undeniable advantages and continue to be used on a daily basis by a variety of stakeholders. As a previous work has demonstrated that there is no ranking specifically designed for schools of public health, the aim of this project was to create one.

Methods: To create the Public Health Academic Ranking (PHAR), the InCites Benchmarking and Analytics$^{\text{TM}}$ software and the Web Of Science$^{\text{TM}}$ Core Collection database were employed. Bibliometric data on 26 schools of public health, from each continent, were collected between August and September 2022. Eleven research indicators and scores, covering four criteria (productivity, quality, accessibility for readers, international collaboration), for the period 2017-2021, were used. For some schools whose affiliation was not mentioned directly in the software, a specific methodology was designed and tested, with unique research queries applied to the database.

Results: The five top schools of the PHAR were: the London School of Hygiene and Tropical Medicine, the Public Health Foundation of India (PHFI), the Harvard T.H. Chan School of Public Health, the Swiss School of Public Health (SSPH+), and the Johns Hopkins Bloomberg School of Public Health.

Conclusions: The PHAR provides an international bibliometric ranking of schools of public health. As this is a pilot project, the results should be taken with caution and future improvements should be developed.

Key messages:
- The PHAR is the first university ranking system specifically designed for schools of public health and focuses on the research field of this discipline.
- The PHAR makes it possible to rank schools of public health with an unusual structure (such as the PHFI and the SSPH+), which are generally overlooked by traditional rankings.

Abstract citation ID: ckae144.1872
The influence of post-traumatic stress on the intention to leave among Korean child welfare workers

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Background and aims: Previous research have highlighted the challenges faced by social workers who are exposed to traumatic events, such as client violence, and vicarious traumas. These experiences often lead social workers to leave their agencies. However, it is commonly assumed that child welfare workers are immune to such experiences as they primarily work with non-violent children. This study aims to investigate whether post-traumatic stress among Korean child welfare workers influences their intention to leave, and whether peer support and organizational culture mediate this relationship.

Methods: A total of 246 participants were recruited in 2021 through purposive sampling. Due to the ongoing Covid-19 pandemic, a self-administered online survey method was employed. Only workers who reported direct and/or indirect traumatic experiences at their workplaces were included in the final analysis. Structural equation modeling was utilized to examine the relationships among variables in this study.

Results: While organizational culture had a partial mediating effect in the relationship between post-traumatic stress and intention to leave, peer support did not show a significant effect. This suggests that fostering a supportive organizational climate may be crucial in reducing work-related stress, including post-traumatic stress. It also highlights the need for social work administrators to actively promote such climates to prevent turnover within the child welfare workforce.

Discussion and conclusions: The findings of this study suggests that child welfare organizations can take proactive measures to address this issue. Creating a supportive organizational culture that fosters resilience and provides resources for coping with post-traumatic stress is crucial. Organizations may explore additional strategies for reducing workforce turnover, which will have negative effects on their clients and organizations as well.

Key messages:
- Fostering a supportive organizational climate may be crucial in reducing work-related stress, including post-traumatic stress.

- Child welfare organizations may explore additional strategies for reducing workforce turnover, which will have negative effects on their clients and organizations as well.

Abstract citation ID: ckae144.1873
Global insights of AMR education within One Health

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Introduction: Amidst rising concerns over antimicrobial resistance (AMR), traditional educational models fall short in addressing the complexities of AMR which spans environmental, animal, and human health. Education plays a key role in equipping students with skills to combat AMR effectively. We analyzed the difference in knowledge, attitude, and practices (KAP) regarding AMR across medical, dental, and veterinary students, in relation to the quality of AMR education they receive.

Methods: Pubmed, Scopus, Web of Science and Google Scholar were searched for articles related to KAP and education until 3 August 2023. The inclusion criterion was the presence of KAP data related to AMR, and details on the AMR education curriculum. Meta-analysis is currently being performed.

Results: We retrieved 1301 articles, and 90 articles met inclusion criteria for final analysis. Articles spanned 42 countries, first to final year, sample sizes ranging from <100 to >3000 participants. Across medicine and dentistry, 79% of studies were done, compared to 17% in the veterinary sector and 5% that adopted a One Health approach. HICs prioritize improving current educational frameworks with practical skills and innovative teaching methods. LMICs deal with challenges like raising awareness about AMR and addressing educational deficiencies at a basic level. Findings indicate a wide variance in AMR knowledge levels, with some studies reporting as low as 32.4% of participants having “good knowledge” on AMR. Attitudes towards antibiotic use and resistance were casual, with a significant number of students expressing the need for more education. Practices varied widely, from high rates of self-medication to better-informed antibiotic use in regions with more comprehensive AMR curricula.

Conclusions: Enhancing the quality of AMR education across medical, dental, veterinary, and environmental health is imperative to equip future health professionals with the knowledge and attitudes necessary to combat AMR.

Key messages:
- Traditional educational models are insufficient for addressing the complexities of AMR which crosses multiple health sectors.
- Improving AMR education quality is crucial to equip future health professionals to effectively combat AMR.

Abstract citation ID: ckae144.1874
Skill mix among healthcare workers during the Covid-19 pandemic – a scoping review

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Background: The problem of human resource shortages in health care was highlighted during the Covid-19 pandemic in many countries around the world. Various solutions have been implemented to cope with the crisis, one of which is the skill mix of medical and peri-medical staff. The aim of the scoping review was to systematise knowledge about the skill mix of healthcare workers during the Covid-19 pandemic.

Methods: The review was conducted in five scientific databases including Cinahl Ultimate, Web of Science, Medline (PubMed), Embase and Scopus. The review included studies published from 2020 until July 2023, presenting original research on the skill mix of health care workers.

Results: A total of 5039 records were identified in the databases and 27 articles were included in the final analysis. Of the included studies, 14 were conducted in Western and Southern Europe. Most of the studies included in the review were conducted among nurses (n = 12), pharmacists (n = 11) and doctors (n = 6). The majority of studies concerned re-allocating tasks (n = 9) and re-allocating tasks and introducing or changing teamwork (n = 7). Research covered psychological aspects of work, patient safety, work reorganisation and training and collaboration. Many studies also focused on difficulties and barriers related to skill mix, such as blurring of responsibilities and role ambiguity. The review did not identify any studies conducted among laboratory diagnosticians, medical coordinators or surgical assistants. In addition, there were no studies of skill mix in Central and Eastern Europe during the pandemic.

Conclusions: Given that skill mix may be one of the solutions to reduce the negative impact of staff shortages, more research should be conducted in this area. Healthcare professionals should be involved in decision-making processes related to the granting of new competencies or the creation of new professions/functions in healthcare.

Key messages:
- It is necessary to involve health professionals in the process of creating new skill mix solutions.
- More research is needed on skill mix in times of crisis, particularly in Central and Eastern Europe.

Abstract citation ID: ckae144.1875
Promoting healthy ageing at work through the development of coping strategies among senior workers

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Background: In France, the employment rate for individuals aged 50-64 has risen to almost 67% by 2023, with projections indicating that nearly one in three citizens will be over 60 by 2040. This demographic shift presents a significant labour challenge. To address this, the study explores how senior workers tackle workplace challenges and how their coping strategies influence healthy ageing at work.

Methods: This study explores critical factors in healthy ageing at work using a mixed QUAL/Quant methodology. 15 interviews provided insight into senior workers, while 28 participants from a French company completed an online questionnaire. Qualitative data were analysed using template analysis, and quantitative data were analysed using SPSS version 20.

Results: The interviews revealed that senior workers' problem-solving methods were grouped into three approaches: technical solutions (ergonomic adjustments, supportive equipment), coping strategies (help-seeking, utilisation crafting and developmental crafting), and mindset changes (metacognition, positive reappraisal). Among the senior group, the survey results showed that developmental crafting was a significant positive predictor of work engagement ($\beta = 1.52$, $p < .05$). Utilisation crafting and relational crafting were significant positive predictors of general health ($\beta = .53$, $p < .05$, and $\beta = .50$, $p = .05$, respectively).

Conclusions: This study not only emphasizes the significance of technological solutions but also underscores the critical roles of help-seeking, utilisation crafting, developmental crafting, metacognition, and positive reappraisal in fostering healthy ageing at work. These insights emphasize the need for ongoing development of human resource management strategies to address the challenges associated with ageing at work.

Key messages:

- Our study finds senior workers employ diverse strategies - technical solutions, coping strategies, mindset shifts - to promote healthy ageing at work.
- The insights highlight the importance of human resource strategies for addressing challenges of the ageing workforce, emphasizing proactive approaches.

Abstract citation ID: ckae144.1876
Postgraduate medical education in Public Health: the Italian scenario and a call to action

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Introduction: Public health training in Italy takes place within postgraduate medical training in Hygiene and Preventive Medicine. With 39 university schools of public health, spread across 17 of Italy's 20 regions, the landscape is diverse. The government determines the number of available contracts annually. This study aims to provide an up-to-date analysis of the saturation of places in Public Health programmes, as well as an assessment of mobility trends between northern and southern Italy from 2017 to 2023.

Methods: Data on admissions, withdrawals and resignations were obtained from the Ministries of Universities and Health and from the archives of the 'Associazione Liberi Specializzandi' (ALS). Mobility was assessed as moving from the central-northern regions to the southern-islands of Italy, and vice versa, between registration with the Medical Council and specialisation programme enrollment.

Results: Between 2017 and 2023, a total of 2301 residents enrolled across Italy, out of 2953 available positions nationwide. During this period the number of available national places, increased from 180 to 576, impacting overall seat saturation. In 2017, 98.3% of positions were covered, compared to only 46.5% in 2023. Regarding the mobility trend, southern students attending northern schools increased from 8.3% in 2017 to 22.4% in 2023, while northern students attending southern schools decreased from 17.9% to 1%. However, the number of dropouts and withdrawals was higher in the North. Mobility students scored lower than non-mobility students nationally.

Key messages:

- From 2017 to 2023, the number of residents enrolled increased, while the allocation rate decreased. There was a shift in mobility patterns, with more southern students moving north.
- Addressing the identified inequalities and understanding the underlying factors driving mobility patterns is crucial for effective planning and allocation of resources.

Abstract citation ID: ckae144.1877
Informing infodemic management capacity building by piloting an adaptable capability tool

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Background: Infodemic management competencies and indicators have been included in key WHO pandemic preparedness documents and guidance such as the Preparedness and Resilience for Emerging Threats (PRET) initiative, the Health Emergency preparedness and response (HEPR) framework and in the WHO benchmarks for strengthening health emergency capacities. Training and capacity building is needed to strengthen infodemic management skills and capacity, and a tool to define capabilities and inform training needs was needed.

Objectives: An adaptable tool was developed and piloted to measure infodemic management capacity to inform training and capacity building needs. The tool was informed by previous work and adapted to cover a wide set of capabilities. It was piloted in March - May 2024.

Results: The tool was developed to cover the breadth of infodemic management work practice and structural support and included: who is conducting infodemic management work; structures in place to support; main activities; health topics focus areas; partnerships with other organisations; social listening and infodemic insights generation; as well as challenges, opportunities and training needs. The tool can be adapted to the specific situation, with a full survey able to be disseminated via an online survey platform as well as a modified interview guide for key informants or settings where that is more appropriate.

Conclusions: Preliminary results show that this tool can be a useful way to measure infodemic management competencies and to inform training and capacity building needs. The ability to adapt to specific settings is important to ensure the results are as useful and tailored as possible. As further testing in different setting continues the tool will continue to be iterated upon.

Key messages:

- Infodemic management is an important component of pandemic preparedness and resilience and across the whole emergency response cycle.
- A new adaptable tool to measure capabilities can help inform infodemic management trainings and capacity building.

Abstract citation ID: ckae144.1878
Field Visits as a Pedagogical Tool to Understand Health Determinants

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Background: Medical education often focuses on curative medicine, neglecting health determinants. Field visits, common in other educational contexts, enhance understanding of these factors. We aim to offer insights into pedagogical methods applicable to similar educational settings.

Objectives: Medical students completing an internship at the Gaia-Espinho Public Health Unit participated in field visits to enhance their understanding of health determinants. Guided through two economically distinct areas within a walkable distance of 2km, students documented health determinants through notes and photos. Discussions were held on-site and after visits integrating the real-world experience with theoretical frameworks. An inductive thematic analysis of students' satisfaction and pedagogical effectiveness of the activity was performed on the internship reports from the 2023/2024 academic year.

Results: Out of 18 internship reports, 10 described the activity as positive and enriching, of which six highlighted it as a crucial part of the internship. Thirteen reports noted that the activity led to new perceptions about health determinants, and nine highlighted its practical value. Nine students included photos in their reports, bike paths being the most featured. Seventeen provided a clear description and listed the determinants they were able to detect. Discussions highlighted sensory experiences that are uniquely discernible through physical site visits including unpleasant odours, loud noises, and the cooling effect of blue areas on hot days. Three did not provide any evaluative comments, but correctly listed the determinants identified.

Conclusions: Field visits may enhance medical students' understanding of health determinants, being recognized as an engaging pedagogical tool. Potential biases in assessments that rely on student satisfaction reports must be considered. Findings support the continuation and expansion of visits in other Public Health internships.

Key messages:

- Field visits, used as a pedagogical tool, may enhance medical students' ability to understand health determinants.
- User Field visits provide a new perspective on previously acquired theoretical knowledge regarding prevention.

Abstract citation ID: ckae144.1879
Working conditions in OOH-PC centres in Romania: an interview study with healthcare professionals

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Considering the amplifying primary care workforce shortage, the existing knowledge gaps in out-of-hours primary care delivery (OOH-PC) in Romania, as well as the extreme county-to-county variation in the number of functioning OOH-PC centers across the country, from 0 to 32, we set out to document health workers' perspectives on existing challenges in after hours primary care. Using a qualitative study design, we conducted semi-structured interviews with a purposive sample of 20 healthcare professionals (HCPs): family doctors and nurses providing clinical services in urban and rural OOH-PC centres, family doctors with coordinating and administrative roles, representatives of professional associations and health authorities, as well as emergency doctors and paediatricians. We examined interview transcripts employing thematic analysis. The data collected and analysed revealed several challenges in the provision of care, including physician shortages, increasing workload, low payments, and an organisational model that lacks coordination with other levels of care and services. The analysis of the interview data identified five key themes related to adverse working conditions in OOH-PC: working hours and shift length, increasing workload and patient influx, obstacles to achieving work-life balance, inconveniences related to OOH centre premises (rest space, security), and insufficient financial compensation for after-hours health service provision. Working conditions in OOH-PC centers in Romania constitute a drawback to after hours primary care service provision. Health workers shortage and extreme variation in the number of functioning centres across the country suggest inconsistencies in the governance of OOH-PC. Improving working conditions to recruit and retain health professionals in OOH-PC, combined with targeted policies to optimise organisation and coordination of OOH-PC with other levels of care are as timely as ever to ensure equitable services to the population.

Key messages:

- Current working conditions in OOH-PC Romania impact negatively the health workforce and lead to uneven access for the population.
- Improvements in working conditions, service integration, and organisation model are timely for the alleviation of OOH-PC provision.

Abstract citation ID: ckae144.1880
Harassment of interns, medical interns and residents: consequences and complaints

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Introduction: Workplace harassment manifests in various forms for healthcare students, potentially leading to modifications in their lives and academic activities.

Objectives: To describe the type of harassment experienced by interns, medical interns, and residents, and its consequences.

Methods: A cross-sectional and prospective study was conducted, including medical interns, social service interns, and residents from Veracruz who reported experiencing harassment in their assigned areas during their last academic year. Direct and virtual invitations were sent through various electronic means.

Results: 58 students were included, with 39 (67.2%) being women. 50% reported experiencing psychological abuse, and 65.5% reported experiencing sexual harassment. The most severe sexual harassment incidents included sexual assault with physical force (1.7%) and three instances of non-consensual sexual relations (5.2%), while the most common were sexual jokes/comments (72.4%). Following harassment experiences, 25% of participants reported feeling anxious, 22% stressed, and 17% angry. Students who perceived psychological abuse reported anger (69%), stress (58.6%), and anxiety (58.6%) as the most frequent consequences, while those reporting sexual abuse indicated anger (73.7%), shame (68.4%), and anxiety as primary consequences. The most frequently identified harassers were attending physicians (56.9%), senior students (34.5%), and non-medical personnel (34.5%). Students filed complaints with hospital authorities (6.9%), university authorities (6.9%), and external agencies (5.2%). The individual who experienced sexual assault with physical force did not file any complaint, while only one person reported non-consensual sexual relations to hospital authorities.

Conclusions: It is crucial to establish safe spaces for students within the hospital environment to promote their overall well-being and academic success, as well as to encourage a culture of reporting.

Key messages:

- Highlighting the need for intervention within the work teams where our students are placed, promoting a violence-free environment.

- Annexing a therapist as part of the work team could favor the well-being of students, since mental health is one of the main points affected within a violent environment.

Abstract citation ID: ckae144.1881
Factors associated with perception of harassment in interns, trainees and residents of Veracruz

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Background: Harassment among resident physicians remains prevalent, with reports of abuse at 20% in Mexico, potentially creating a hostile learning environment that does not foster comprehensive learning for students.

Objectives: To determine the factors associated with harassment among interns, medical interns, and residents in Veracruz.

Methods: This is a prospective cross-sectional study, including interns, social service interns, and residents in the state of Veracruz, excluding those diagnosed with oppositional defiant disorder or mythomania. Workplace harassment was assessed using the Cisneros scale (Cronbach's alpha 0.98), in addition to perceptions of workplace, psychological, and sexual harassment. Within the statistical analysis, the association was determined using chi-square test, odds ratio, and 95% confidence interval (OR/CI95%).

Results: A total of 81 participants were included, with a perception of workplace harassment in 42% and sexual harassment in 51.9%; the Cisneros scale shows 2.5% of subjects free from any harassment behavior. Female gender showed association with workplace harassment (0.7/0.01-0.2); meanwhile, attending a public university (OR: 0.22 / CI: 0.07-0.6) and being a pregraduate intern (OR:2.6/CI:1.03-6.6) were associated with perception of psychological harassment. Furthermore, being female (OR:9.28/CI:3.3-25.4), bisexual (OR:11.8/CI:1.4-97.8), a pregraduate intern (OR:3.44/CI:1.32-8.97), an R1 resident (OR:0.09/CI:0.01-0.79), and being affiliated with Veracruz (OR:2.6/CI:1.05-6.58) or Xalapa (OR:0.1-CI:0.05-0.7) were identified with association for experiencing sexual harassment ($p < 0.05$).

Conclusions: Gender and level of education are the main factors associated with harassment, while the type of university of origin plays an important role in psychological harassment, warranting further study of these interactions while considering the limitations of this research.

Key messages:

- The results of this research show that the roles of violence within hospital medical education are still maintained despite the social evolution with respect to gender roles and equality.
- It is necessary to promote the culture of denunciation and offer courses to eliminate abuse and promote equality and respect among hospital staff.

Abstract citation ID: ckae144.1882
Fairer Training in public health, the UK FPH example

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Background: Public Health (PH) advocates for health equity and social justice. The UK Faculty of Public Health (FPH) is committed to tackling inequalities across the public health career pathway. The Fair Training project is a multi-phased programme which focuses on fair recruitment into PH, reducing differential attainment during PH training and postgraduate examinations.

Objectives: • Analyse available data from various sources; • Identify gaps in fair training culture and any biases; • Identify where support or interventions may best be focussed to minimise disadvantages; • Identify improvements in data that could be used to monitor actions; • Identify areas of good practice. Variables explored were demographic characteristics e,g, age, sex, ethnicity, disability status, professional background, candidate status (UK or overseas), place of primary qualification.

Results: Results show that candidates from ethnic minority backgrounds, those who are older, from international medical graduate backgrounds and backgrounds other than medicine are under-represented at the end of recruitment. Multivariable analysis of the diplomate exam shows that an attainment gap exists across increase with age, and those from black, Asian or white other ethnicity, professional background other than medicine, and overseas candidates. For the membership exam, multivariable analysis shows the attainment gap persists across those of increasing age and black ethnicity.

Conclusions: Recognising differential attainment as a structural problem requires organisational and individual leadership. Recommendations include an action plan to ensure: • Equality of opportunity for learning and career progression; • Collaborative working to eliminate discrimination in the design of education; • Ensure that training and the working environment are inclusive and diverse; • Inform future PH workforce planning; • Share good practice. FPH will implement the recommendations and share with other organisations and countries.

Key messages:

- Structural causes of differential attainment during recruitment and training in public health do exist and should be mitigated.
- FPH aims to promote Fair Training and excellence in public health practice.

Abstract citation ID: ckae144.1883
Public Health In Conflict And War: A Response To An Ever Evolving Landscape

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Background: The bases for this proposal are the current and ongoing conflict and war situations around the world, causing turmoil for nations and hardship and public health crises for people. We can no longer ignore the critical and time-sensitive need to address issues of Public Health (PH) in conflict and war in our education and training programmes.

Objectives: To consider appropriate themes and topics in Conflict and War that should be included in PH education and training programmes; and to consider how and where they are best represented. Member schools of the Association of Schools of PH in the European Region (ASPHER) were asked to provide details of their curricula relating PH in Conflict and War. Submissions on this topic were received from over 10 schools. Information was collated into logical themes, to which elements of the curriculum were mapped. In a modified Delphi process, respondents were asked for their level of agreement for inclusion in a curriculum and at what level content should be delivered.

Results: Findings from the survey allowed identification of seven main themes from topics provided: Contextual Factors; Preventive Strategies; Emergency Preparedness; Impact and Response; Conflict Resolution and Solidarity, Rehabilitation and Recovery. Respondents had high levels of agreement that content should be included in curricula and be delivered at every level in PH education and training.

Conclusions: PH education and training have been deficient in not including PH in Conflict and War as a subject area in programmes. The knowledge and expertise developed of necessity in some places can be shared across the ASPHER network and beyond to increase awareness of the PH considerations of conflict and war.

Key messages:
- Public health in war and conflict zones is critical due to unique challenges and urgent needs of affected populations.
- An Integrated curriculum is vital for addressing conflict's long-term health impact and preparing skilled workforce for health, resilience, action and laying the path to peace.

Abstract citation ID: ckae144.1884
Health and Care Horizons Leeds: Attracting, navigating and inspiring the future workforce

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Health and social care (H&SC) partners in Leeds connect and collaborate across seven shared workforce priorities, including 'growing and developing registrants" and "narrowing inequalities". A range of programmes across the Leeds H&SC system promote collaborative, person-centred recruitment, and developing diverse & accessible talent pipelines. Through these programmes and the aims of the NHS long-term workforce plan we have identified a need to draw together information, insight and opportunities to attract, navigate, inform and inspire young people into H&SC careers. The Leeds partnership co-designed an interactive career exploration tool with young people to meet these aims. This person-centred digital tool is designed to dispel misinformation and equip young people with personalised actions and pathways to work anywhere in the sector based on their skills, values and lifestyle. The framework of our approach to designing the tool and lessons learned is applicable to other settings and localities. An academically embedded evaluation of the co-design phase demonstrated the importance of reaching out to a diverse audience. We worked with over 400 young people across 12 unique and representative networks and made them feel valued. Our partners were persuaded by the potential for the tool to boost recruitment and retention strategies, aligning with the NHS long-term workforce plan and the vision for a Social Care Workforce Strategy. The platform will be launched in September 2024 so process findings will be combined with results around usage, appraisal from the sector and careers services, and impact on employers and educators. Through co-design we have challenged our assumptions at all stages of the project and created a transformational tool to address the needs of the sector and young people in Leeds. We will continue to work closely with our H&SC sector partners to embed the tool in their organisations and expand the tool's functionality.

Key messages:
- We have created a system-wide operational career exploration tool to attract young people in Leeds to the right Health and Care career for them.
- We will highlight the core values that have underpinned the creation of the tool, its functionality and lessons learned post-launch.

Abstract citation ID: ckae144.1885
Health workers' perceptions on refugees' access to healthcare and right to health in Turkiye

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In Turkey, over the past decade, the influx of refugees has significantly influenced migration policy and consequently, health policy for refugees, shaping the perspectives of healthcare workers towards refugees. To gauge healthcare workers' perceptions regarding refugees' access to healthcare and their right to health, a survey was conducted across three hospitals in two cities (n = 547). The drop-collect methodology was used, obtaining consent in advance. Healthcare workers (HCWs) were classified into four groups: doctors (n: 139), nurses and midwives (n: 201), other healthcare professionals (n: 58) and non-healthcare professional (n: 137). Additionally, twelve people who did not want to disclose their profession were excluded from the statistics when comparing responses by profession. According to HCWs' experiences, the most common obstacles faced by refugees included language barriers due to not knowing Turkish, the absence of interpreters in hospitals, cultural disparities, and financial constraints. Among HCWs, 89.8% (n = 491) believe that health constitutes a fundamental human right, yet only 55.8% (n = 305) advocate for free emergency services for all. Furthermore, 43.1% express concerns that providing healthcare to refugees might attract more refugees, and 38% suggest that only individuals deemed healthy through health screening upon entry should be permitted into the country. Responses to inquiries about the prevalent issues varied across cities and occupational groups. Despite the majority of HCWs adopting a right-based approach to health, it is evident that some lean towards a deservingness perspective regarding refugees' access to healthcare. Consequently, there is a pressing need for collaboration among various sectors to furnish adequate information and training for HCWs on migrants' rights and prejudice. This should be a part of migration policy, leading to a more migrant-friendly health system.

Key messages:
- Collaboration among diverse sectors is urgently needed to provide healthcare workers with thorough information and training on the rights of migrants and addressing prejudice.
- Implementing training programs for healthcare workers as a component of migration policy is essential for building a migrant-friendly healthcare system.

Abstract citation ID: ckae144.1886
Ready to act? Factors associated with nurses' desire to work in Primary Health Care in Italy

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Background: The rapid increase in demand for primary healthcare (PHC) services after the pandemic requires reconsidering nursing staff planning and availability. The objectives of the study were to i) identify knowledge, attitudes, practices and work expectations of future nurses in primary care; ii) estimate the prevalence of nursing students who desire to be employed in PHC and Family and Community Health Nursing (FCHN) services after graduation.

Methods: A cross-sectional study is being conducted on a sample of nursing students enrolled in universities in the Lazio Region. A structured instrument was built based on the literature and national regulations and validated (Cronbach's alpha=0.81).

Results: In this first phase, 163 nursing students were enrolled. The majority of the sample was female (N = 125, 76.7%), with a mean age of 22 (SD ± 5) years and were enrolled in the last year of degree program (N = 85, 52.1%). A total of 49 students (30%) reported adequate knowledge of PHC service reorganization policies and nursing practice in this setting. While 74% (N = 122) of the sample intended to undertake a PHC curricular internship during their degree program, only seven students (4%) participated in one. 52 individuals (30%) expressed their intention to be employed in PHCs after graduation, and 29 (17.8%) indicated their desire to work as FCHN practitioners. The main factors contributing to the undesirability of employment in PHC reported by students were: i) preferring the hospital settings (N = 53, 48%); ii) not having adequate skills to be employed in the PHC (N = 21, 19%); and iii) believing that the PHC does not offer attractive services for nursing practice (N = 14, 13%).

Conclusions: A multivariable analysis will be conducted to identify predictors of nursing students' desire to work in PHCs after graduation. Preliminary results of the study showed that only one-third of nursing students indicated a desire to work in PHCs.

Key messages:

- Only one-third of nursing students express a desire to work in PHC and in Family and Community Health Nursing (FCHN) services post-graduation.
- Collaboration between the PHC workforce, academics, stakeholders, and policymakers is needed to create tailored initiatives that increase the attractiveness of PHC.

Abstract citation ID: ckae144.1887
Enhancing Interprofessional Skills with SKY Campus: A Pilot Study on Mental Well-being at UCD

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Background: Public health professionals and students face increasing mental health challenges. Sudarshan Kriya Yoga (SKY), known for its mental health benefits such as stress reduction and improved emotional regulation, offers a promising strategy for enhancing well-being in public health education.

Objectives: To evaluate the immediate effects of a three-day participatory SKY workshop on mental well-being of Master of Public Health students at University College Dublin, Ireland.

Methods: A non-randomized, controlled pilot study will involve MPH students at UCD. Participants, aged 18 and above, enrolled in the MPH programme, will provide informed consent to attend a three-day SKY workshop in September 2024. The workshop, delivered by certified trainers, includes three sessions of three hours each. Standardised and validated Patient-Reported Outcome Measures (PROMs) such as the Perceived Stress Scale (PSS-10) and WHO-Five Well-being Index (WHO-5) will be used to assess perceived stress and mental wellbeing at baseline and immediately after the workshop.

Results: Based on previous literature, it is hypothesized that participants will show a significant reduction in perceived stress and improvement in mental wellbeing scores. Data will be analysed using descriptive statistics and Wilcoxon signed-rank tests to evaluate changes in PROM scores.

Conclusions: This pilot study aims to provide preliminary evidence on the effectiveness of SKY in improving mental wellbeing among public health students. Successful outcomes could support integrating SKY into the public health curriculum, promoting its adoption across other institutions, and enhancing the professional skills development of future public health professionals. This component is proposed in the ASPHER core curriculum programme for public health as an important cross curricular subject area

Key messages:

- Integrating SKY Campus workshops into public health education enhances interprofessional skills and mental well-being, offering a holistic approach to professional development in global health.
- This study uses standard PROMs to assess the SKY workshop's impact, aiming for significant improvements in stress and mental well-being to shape global public health curricula.

Abstract citation ID: ckae144.1888
In development intervention, professionals aim to enhance working practices and interaction

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Background: The social services and healthcare professions are experiencing a global labor shortage. Enhancing the appeal and retention requires the development of work and processes through community-level interventions that reduce workload and bolster resources. Further research into such interventions is necessary. This study focuses on a systematic community-based practice development model (Breakthrough Collaboratives) to evaluate the change in alignment with the development intervention's objectives and the prerequisites for change. The evaluation will utilize the process evaluation model for well-being at work projects and health promotion interventions.

Methods: This qualitative process evaluation employs a multi-case study approach to depict the changes occurring during the development intervention. It assesses the development processes of fifteen workplaces across Finland. The research material includes recorded group discussions from the initial workshop, where professionals establish goals and development targets for their work. The qualitative data are analyzed using content analysis. The analysis is guided by questions such as: What goals and development objectives do participants set for their work? What workplace-specific characteristics inform these objectives?

Results: Preliminary findings indicate that the work units' development objectives concentrate on updating the unit's common rules, enhancing the induction process for new employees, improving work behavior, and refining meeting practices. Workplace-specific characteristics differ based on the work unit's sector, the level of trust among professionals, and their willingness to critically evaluate management. Additionally, competence and professionalism emerge as prominent themes in group discussions.

Conclusions: In a workplace development intervention, professionals aim to enhance common working practices and interaction, with the goal of improving well-being at work.

Key messages:

- Enhancing operational practices and promoting positive interpersonal conduct among colleagues constitutes a pivotal goal in advancing social and health care work units.
- The Community based intervention provides workplaces with concrete models to support co-creation and permanent changes in working practices.

Abstract citation ID: ckae144.1889
Barriers to the application of simulation technologies in the education of health care students

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Simulation technologies (ST) in health and medical education are undergoing rapid development due to the undoubted advantages of the methods and forms of simulation used - high quality, significant efficiency, economy, reliability and safety for the patient. At the same time, the application of ST is still underrepresented in the education of health care students. The main aim of this study was to identify the barriers and perspectives for the application of ST in the education of health professional students in Bulgaria from the perspective of the respondents' expertise. A qualitative study of the expert (n = 17) opinion of those directly involved in the introduction, application, and evaluation of the use of ST in the education of healthcare students was conducted in 2023 in Varna. The questionnaire regarding the barriers and perspectives in the use of ST in the education of undergraduate and postgraduate students in health specialties students was used. The main barriers to the widespread use of ST in the training of students were identified as follows: the lack of adapted curricula that combine traditional practical sessions with patients and those on simulators; the lack of a sufficient number of trained and motivated trainers; the reluctance of trainers to introduce or more widely use ST; lack of or insufficient space to locate a simulation centre or equipment in relevant core units; the high cost of purchasing and maintaining ST and limited financial resources, as well as the large number of students in the groups. According to one of the experts, 'there are no barriers to the use of ST, but real patient contact and a personalized approach to the patient is impossible to replicate through technology,' highlighting the importance in combining traditional training with real patients and modern with the use of technology. Ethical issues in training healthcare professionals with simulators appear to be a new aspect of medical education with the application of ST.

Key messages:

- In the effort for widespread implementation of ST in the training of health professions students, it is important to achieve a balance with traditional training experienced with real patients.
- Identifying and overcoming barriers is an important prerequisite for the rapid and widespread application of ST in the training of health care students.

DP. Poster display: Infectious diseases control

Abstract citation ID: ckae144.1890
Factors associated with the intention to vaccinate children: a Finnish population survey on influenza

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Background: Influenza vaccination for children aged 6 months to 6 years is included in the national vaccination programme in Finland. Although all vaccines in the programme are free of charge, national coverage of influenza vaccination among children under 3 years and 3-6 years during 2020/21 was 43% and 35% respectively, with regional differences. Our aim was to assess factors underlying parental vaccination intention in order to increase influenza vaccine uptake among children in Finland.

Methods: We conducted a survey among parents (n = 17,844) of eligible children (aged 6 months-6 years), selected randomly from five Finnish municipalities. Children and their parents were selected from high and low coverage areas, and the study was conducted in February-March 2022. Logistic regressions were used to determine associations between vaccination intention and e.g., sociodemographic factors, attitudes and knowledge. Linkage to the national vaccination register was used to confirm realisation of vaccination intention after the study.

Results: Participation rate was 13% (n = 2,322 parents). Influenza knowledge, trust in official information, responding parent's education level, adherence to the vaccination programme, number of children and changes in attitudes towards vaccination since COVID-19 were all associated with intention to vaccinate. Vaccination intention for children was 64% and realised vaccination 51%.

Conclusions: Despite the low participation rate, both vaccinated and unvaccinated children were represented. Influenza vaccine uptake is not dependent on a single factor. Our results identified the need for open dialogue between parents and healthcare professionals, as the lack of vaccine being offered by healthcare professionals was the most reported reason for not vaccinating.

Key messages:

- Parental vaccine decision-making in settings where the vaccination is given free of charge is complex, and not always driven by intention to vaccinate.
- Most parents had the intention to vaccinate, but some children still ended up not receiving their influenza vaccine.

Abstract citation ID: ckae144.1891
A prolonged outbreak of tuberculosis associated with an intellectual disability daycentre in Ireland

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One of the factors impeding tuberculosis elimination in low burden countries is its persistence and concentration in vulnerable populations. This is a complex, prolonged Tuberculosis (TB) outbreak in a daycentre for adults with intellectual disability in Ireland. This is a particularly vulnerable population with special considerations for Public Health (PH) management. There are eight cases of active TB, 46 cases of Latent TB Infection (LTBI) and a cumulative total of 116 contacts associated with this outbreak, with diagnosis spanning 15 years. The last three cases were identical on Whole Genome Sequencing. The index case was an Irish-born, Caucasian, social care worker, with smear positive pulmonary TB, who was symptomatic in the facility for three months prior to diagnosis. Case 2 was a household contact of the index case and the other 6 cases were Service Users (SUs) at the facility. At least five of the subsequent seven cases are secondary cases of the index case. Significant to this outbreak was the change in Irish guidance, 2010, relating to the management of contacts of cases. Following the notification of the most recent case, July 2023, the Outbreak Control Team decided a retrospective review be conducted of all SU contacts of the seven cases associated with the facility. The contacts were stratified according to hierarchical risk. A total of six contacts met the criteria for review and offered screening, re-screening or treatment as appropriate. In this outbreak 21.8% of the total contacts and 16.1% of SU contacts completed treatment for LTBI. The significance of this outbreak lies in its duration, infectivity of the index case and particular vulnerabilities of the SUs. There were issues with overcrowding and difficulties in relation to symptom recognition, diagnosis and treatment. The PH team tailored their approach to meet the SU needs, demonstrating the importance of person-centred contact tracing in the disruption of transmission.

Key messages:

- A factor impeding tuberculosis elimination in low burden countries is it's persistence and concentration in vulnerable populations.
- Adapting a patient-centred approach to contact tracing can lead to higher participation rate and the disruption of infection transmission.

Abstract citation ID: ckae144.1892

The resurgence of pertussis in Central Serbia in the period from June to December 2023

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Background: There was a registered increase in the number of confirmed pertussis cases in Central Serbia between June and December 2023. Among the possible causes of pertussis resurgence are increased awareness of pertussis among healthcare workers, availability of the sensitive RT PCR method in diagnostic, the limited duration of vaccine-induced immunity as well as decline of immunization coverage influenced by the COVID-19 pandemic.

Methods: The nasopharyngeal samples from clinics and primary care departments were transferred to Institute of Public Health of Serbia. DNA was extracted from each sample using the MagMAX Viral/Pathogen kit. The presence of B. pertussis was determined using two PCR assays, VIASURE Bordetella Real Time PCR Detection Kit and Bosphore B. pertussis/parapertussis Genotyping Kit, Anatolia Geneworks.

Results: RT-PCR confirmed a total of 338 pertussis cases in Institute of Public Health of Serbia during the observed period. Most of confirmed cases were among children 9-14 years old (49,7%) followed by infants younger than 12 months (21,9%). The more severe cases were among the unvaccinated and uncomplete vaccinated infants, 78,4% of which required hospitalization with two deaths in this age group.

Conclusions: Based on the analysis of the obtained results, we can highlight the importance of using sensitive methods in pathogen detection. Rapid diagnosis, laboratory confirmation and notification ensure early public health intervention to minimize the spread of disease. Despite long tradition of mandatory immunization against pertussis in the Republic of Serbia, wanning of vaccine induced immunity poses potential risk for the resurgence of pertussis. For pertussis control, in the future, it will be essential to achieve high immunization coverage as well as to introduce a booster dose of pertussis containing vaccine for children aged 14 and to implement vaccination of pregnant women.

Key messages:

- For the better pertussis control vaccination of adolescents and adults, as well as vaccination of pregnant women should be considered in the future vaccination policies.
- Clinicians should consider pertussis in the differential diagnosis of persistent cough illness in people of all ages, even those previously immunized.

Abstract citation ID: ckae144.1893

Seroepidemiological study of Epstein-Barr virus infection in reproductive age women in Bulgaria

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Background: At the present stage, studies on the involvement of Epstein-Barr virus (EBV) in neonatal pathology are rare. Establishing seroprevalence among women of reproductive age has important epidemiological significance in order to determine the risk of infection during pregnancy and intrauterine infection of the fetus. The aim of the study is to determine the seroepidemiological status of EBV in reproductive age women.

Methods: We conducted a prospective seroepidemiological study in which 96 healthy women of reproductive age (18 to 49 years) were tested during the period December 2023 - January 2024 in Medical Center "Clinical Institute for Reproductive Medicine"- Pleven, Bulgaria. Participants were surveyed on a voluntary basis. The exclusion criteria were: presence of autoimmune disorder, immunosuppressive states, malignancy and populations at risk such as persons under 18 years of age and pregnant women. The presence of specific antibodies were detected using a standardized Anti-EBV VCA IgM, Anti-EBV VCA IgG and Anti-EBV EBNA-1 IgG ELISA kits. The demographic and anamnestic data were collected for each participant in Case Report Form.

Results: The average age of the women was 34.41±5.44 years. Dominating were women with higher education (76.04%) living in urban areas (91.67%). The results of the seroepidemiological study of markers for EBV show that 98.96% of women of reproductive age are seropositive. There was no significant correlation between the presence of antibodies and socio-demographic indicators (living area, education and number of family members).

Conclusions: The results of this study imply that only 1.04% of the reproductive age women in Pleven region are susceptible to infection with EBV. Although interpretation of the serological status indicates a low risk of primary infection, active monitoring of high-risk groups pregnant women is necessary because of the possibility of EBV reactivation.

Key messages:

- On-going monitoring of the seroepidemiological EBV status in reproductive age women is necessary to determining the possibility of EBV reactivation and to reduce the teratogenic risk of the infection.
- Seroepidemiological surveillance of markers for EBV infection in reproductive age women is part of effective preventive measures at the public health level.

Abstract citation ID: ckae144.1894
Reflective model assessment of adherence to COVID-19 non-pharmaceutical interventions

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Background: Non-pharmaceutical interventions (NPIs) decrease COVID-19 transmission. We identified behavioral factors that affected NPI adherence according to Normalization Process Theory (NPT) in medical students, travel seekers, and people with substance use disorder using reflective model measurement, which previously had not been conducted. Public health officials should consider factors that influence adherence to create preventive strategies for COVID-19.

Methods: In a cross-sectional design, medical students and people with substance use disorders in treatment comprised a probabilistic sample, and travelers and COVID-19 suspected persons comprised a convenience sample. Participants were from Split-Dalmatia County ($n = 656$) in the Mediterranean and consented to self-administered surveys in 02/2021. Sociodemographic data, locus of control (LoC), and moral behavior were collected. Partial least squares structural equation modeling (PLS-SEM) was used to measure reflective assessment of NPI adherence according to NPT.

Results: PLS-SEM reflective model assessment provided two-group specific factors in inverse relationships which determined NPI adherence with excellent goodness of fit ($\chi 2=1.292$, $df = 1$; $p = 0.297$). Significant negative factors covariance estimate (-0.716) revealed an increase in adherence to the first factor, NPIs and internal LoC [0.640], as the second factor, age (≤ 25) and highest education level (1.362), decreased. LoC was the mechanism by which sex (MLsex=-0.017, $SE = 0.007$, $p < 0.016$) and being a student or person with substance use disorder (MLgroup=-0.008, $SE = 0.003$, $p = 0.015$) showed indirect effect on NPI adherence.

Conclusions: Students and people with substance use disorders more adhered to NPIs. Higher-educated younger adults with a tendency toward external LoC facilitated the normalization. Public health interventions could encourage these subgroups to act as promoters to increase NPI adherence in similar settings.

Key messages:
- COVID-19 non-pharmaceutical interventions and psychological factors of students and people with substance abuse disorder influenced adherence. Targeted interventions could promote adherence.
- Public health officials should consider that preventive strategies may be more effective in highly educated adults younger than 25 years of age.

Abstract citation ID: ckae144.1895
From agent-based simulations of disease dynamics to expert support on public health interventions

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Agent-based epidemiological simulators have long been used to predict the dynamics of infectious diseases. They allow to combine compartment approaches with representing contact networks derived from real or synthetic populations. Often, scenario techniques are applied to model the impact of public health interventions. During the COVID-19 pandemics the agent-based simulator COVASIM has been established for modelling the spreading of SARS-CoV-2. It includes four different contact networks related to homes, schools, workplaces and environment. During the pandemic it became obvious that the current simulation techniques were not sufficient to cover important needs in public health administrations and society. While most simulations were based on scenarios predicting expected numbers for the infected, hospitalized or critically ill, these studies could not provide easily strategic options on a variety of equivalent public health interventions, which are all suitable to keep disease dynamics within acceptable bounds, set e.g. by hospital capacity. Knowing about a variety of equivalent options, however, is of crucial importance to enable a fair burden sharing throughout all groups of society. Therefore, we applied machine learning techniques to create an inverse model for epidemiological simulations based on COVASIM. For given transmission rates it outputs a range of quantitative interventions which are equivalently suitable to keep epidemiological dynamics within predefined bounds. Currently, it covers interventions like school and workplace closings and other mobility restrictions. Future work will be directed to include other interventions, like vaccination campaigns, and we will work to make the approach more generalizable for other infectious diseases. The tool may turn out helpful fur public health administrations and stimulate the public debate on the best way a society may take in a pandemic event or other situations where public health action has to be imposed.

Key messages:
- Machine Learning allows to invert agent based simulators.
- Instead of disease dynamics simulations a set of equivalent public health interventions consistent with pre-defined constraints can be calculated.

Abstract citation ID: ckae144.1896
Antimicrobial resistance and infection prevention in care for people with intellectual disabilities

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Background: Antimicrobial resistance (AMR) has become one of the major public health threats worldwide. However, little is known about antimicrobial resistance and infection prevention and control (IPC) in long-term care facilities for people with intellectual disabilities. This study aims to assess knowledge, attitudes and perceptions towards AMR and IPC among healthcare professionals working in long-term care facilities for people with intellectual disabilities (ID-LTCFs) in the Netherlands.

Methods: We conducted a web-based cross-sectional survey study among medical and nonmedical trained healthcare professionals working in ID-LTCFs in the Netherlands. The survey study was carried out between July and November 2023 and consisted of validated survey items expanded with expert opinion and setting-specific items.

Results: In total, 109 medical and nonmedical trained healthcare professionals working in 37 long-term care organizations for people with intellectual disabilities throughout the Netherlands completed the questionnaire. Overall, knowledge levels about AMR and IPC differed between medical and nonmedical trained healthcare professionals working in ID-LCTFs, with medically trained professionals having a significant overall higher score on both topics. Knowledge regarding the perceived protective value of glove use was found to be insufficient. Moreover, healthcare professionals expressed a need for easy-to-read resources and tailored setting-specific information on AMR and IPC targeting both healthcare professionals as well as people with disabilities.

Conclusions: There is room for improvement regarding setting-specific IPC and hygiene policies, such as appropriate glove use in ID-LTCFs. As nonmedically trained professionals comprise most of the workforce within this setting, it is important to further tailor follow-up studies to the underlying factors that influence knowledge, attitudes and perceptions of these specific professionals within ID-LTCFs.

Key messages:

- Developing setting and context-specific policies for infection prevention and control is crucial, particularly in long-term care facilities for people with intellectual disabilities.
- Inclusive policy-making is key to combating antimicrobial resistance, and improving infection prevention and control in long-term care facilities for people with intellectual disabilities.

Abstract citation ID: ckae144.1897
Adult Immunization Board: A platform to provide guidelines for implementation of adult immunization

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Background: Several organizations, including governments, (inter) national public health organizations and vaccine manufactures are currently considering how adult immunization can be further improved to increase health impact and promote a lifelong approach to vaccination. Despite many organizations thinking about ways to improve adult immunization, there is currently no multidisciplinary discussion platform focusing on this topic at the European level. Therefore, a group of experts in the field of adult immunization established the Adult Immunization Board (AIB).

Methods: AIB is established with the aim of contributing to the reduction of the impact of vaccine-preventable infections and diseases in European adults. AIB works by organizing 2 meetings per year: 1) a technical meeting to discuss specific technical aspects on adult immunization with subject-matter experts, and 2) a country meeting to discuss country specific aspects of adult immunization together with local experts.

Results: In April 2023 and 2024 the AIB organized its first technical meetings on "Assessing the health burden of vaccine-preventable infections in European Adults (2023)" and "Strategies for introducing and implementing vaccines for adults into National Immunization Programs in Europe (2024)". In December 2023, the AIB organized its first country meeting in Italy with local experts to learn out best practices in adult immunization and address aspects to improve.

Conclusions: AIB is a platform that brings together the different key European stakeholders in adult immunization to effectively contribute towards the implementation and optimization of adult immunization programs in Europe.

Key messages:

- Continued efforts to promote research, implementation, awareness, accessibility, and vaccine uptake are crucial to mitigate the burden of (future) infectious diseases in the adult population.
- The AIB represents a significant step towards bolstering adult immunization efforts in the EU.

Abstract citation ID: ckae144.1898
Exploring PrEP awareness among addiction service professionals: an Italian cross-sectional study

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Background: Pre-exposure prophylaxis (PrEP) is an effective HIV prevention strategy. Since 2023, in Italy, PrEP has been subject to reimbursement, making it freely available to individuals who meet specific criteria, including those who engage in substance use during sexual activity (chemsex). In this context, all healthcare professionals (HCPs) in Addiction Departments and Services (ADS) play a crucial role from the intake interview in identifying potential PrEP candidates, providing an essential gateway to services. Thus, this study primarily aimed to explore the knowledge of ADS professionals regarding PrEP.

Methods: In 2024, an ongoing nationwide cross-sectional study has been conducted in Italy, enrolling a convenience sample of HCPs employed in ADS. The online questionnaire comprised items assessing knowledge regarding PrEP, training on PrEP, and experiences related to daily practice. The primary outcome was the awareness of PrEP existence, while secondary outcomes included knowledge regarding reimbursement.

Results: Preliminary analyses were conducted based on 269 questionnaires. Participants had a median age of 52 years (IQR=45-59). Physicians represented 26.0% of the sample, followed by nurses (23.0%). Awareness of PrEP stood at 43.5%, while knowledge of the existence of reimbursement conditions was at 29.9%. A vast majority (93.7%) felt inadequately informed, while 97.0% believed HCPs in ADS should receive training. Physicians demonstrated significantly higher awareness of PrEP existence, whereas there were no significant differences in reimbursement knowledge compared with other HCPs.

Conclusions: Intermediate findings revealed substantial gaps in PrEP awareness and reimbursement knowledge. These results emphasize the critical importance of tailored education and training programs to bridge these gaps and facilitate effective PrEP implementation in diverse healthcare settings, ultimately advancing HIV prevention efforts and promoting equitable access to care.

Key messages:

- Substantial knowledge gaps about PrEP among healthcare professionals working in Addiction Departments and Services in Italy were highlighted.
- Effective PrEP implementation hinges on empowering professionals with the necessary expertise to identify and support PrEP candidates, underscoring the critical role of tailored education initiatives.

Abstract citation ID: ckae144.1899
Pertussis seroprevalence and related factors in 15-49 years old women in Mersin, Turkey

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Background: Pertussis is an acute, contagious respiratory disease with high mortality and morbidity, especially in early infancy. If the mother is immune to pertussis, infants too young to be vaccinated are protected against pertussis infection after birth by maternal immunity. This study aimed to investigate pertussis seroprevalence and associated factors in women aged 15-49 years.
Methods: The cross-sectional study was conducted on women aged 15-49 years in Mersin city between December 2023 and February 2024. A total of 352 women from family health centres in four central districts of Mersin were included in the study. In this study, anti PT-IgG levels in blood samples were investigated by enzyme-linked immunosorbent assay ELISA method. In the analysis of the data, descriptive statistics, chi-square analysis, and binary logistic regression analysis were used. The results were presented at a 95% confidence interval, at a significance level of $p < 0.05$.
Results: Anti-PT IgG seropositivity was detected in 150 (%42.6) of the women. In seven (2%) of women, the anti-PT IgG value was greater than 100, indicating an acute infection. Individuals who did not receive or could not recall having received school vaccinations were found to be 2.18 times more likely to be seropositive than those who had received vaccinations at school. Individuals residing in the same household with a healthcare professional were found to be 1.78 times more likely to be seropositive than those who did not.
Conclusions: Half of our region's newborns lack protection from whooping cough. Maternal immunization with pertussis-containing vaccines is crucial. Many countries have safely used such vaccines for years. Replacing Td with Tdap in Turkey's pregnancy immunization can better shield mothers and newborns from pertussis.
Key messages:

- Maternal immunization is crucial for protecting newborns from pertussis, reducing mortality and morbidity.
- Addressing vaccination disparities is vital to ensure community-wide protection against pertussis, saving lives.

Abstract citation ID: ckae144.1900
Point Prevalence Survey of HAIs as a key component of Infection Prevention and Control programs

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Healthcare-Associated Infections (HAIs) are a global concern, requiring surveillance strategies as Point Prevalence Surveys (PPS) to estimate their burden and investigate associated risk factors for targeted interventions in high-risk areas. This study aims to assess the prevalence of HAIs, identify determinants and evaluate antimicrobial use in a teaching hospital in Rome. A PPS was carried out from June 19th to 23rd, 2023, in accordance with the European Centre for Disease Prevention and Control (ECDC) protocol for HAIs and antimicrobial use in European acute care hospitals (version 6.1). Pearson's chi-squared test was employed to investigate correlations between potential risk factors and HAIs. The survey included 829 patients with an average age of 56.3 years (SD: ± 24.6). Of these, 48.4% were female and over half had visited the hospital's Emergency Department (53.7%). The prevalence of active HAIs was 8.7%, with 72 patients diagnosed. Furthermore, 51.0% of all patients received at least one systemic antimicrobial agent, and 16.7% of those treated had an HAI. Penicillins (39.7%) and third-generation cephalosporins (37.8%) were the most frequently prescribed antimicrobials. The primary HAIs were bloodstream infections (34.1%), followed by urinary tract (27.3%), surgical site (23.9%), lower respiratory tract (6.8%), and gastrointestinal infections (7.9%). Escherichia coli (13.2%), Staphylococcus aureus (9.2%), and Clostridium difficile (6.6%) were the most frequently isolated pathogens. Intensive Care Unit admission, use of medical device, recent antibiotic therapy and prior hospitalization or surgery significantly correlated ($p < 0.05$) with increased HAIs risk. The detected prevalence of HAIs is lower than the national rates observed in 2022 (10.2%), which have increased since 2016. HAIs surveillance is essential for developing effective infection prevention and control programs and for optimizing resource allocation in hospital settings.
Key messages:

- Surveillance of Healthcare-Associated Infections is crucial for developing targeted Infection Prevention and Control programs and optimizing hospital resource allocation.
- Point Prevalence Surveys offer essential information for assessing the burden of Healthcare-Associated Infections and directing intervention strategies in hospitals.

Abstract citation ID: ckae144.1901
Interventions to prevent Neonatal Healthcare-associated Infection: a systematic review of RCT

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Background: Healthcare-acquired infections (HAI) in neonatal intensive care unit (NICU) specifically refer to infections that occur in newborn infants within the healthcare environment. Preterm infants, often more vulnerable to infections, in the NICU may be exposed to various medical interventions, devices, and environments that can increase the risk of infections. This systematic review aims to evaluate the effectiveness of interventions proposed to prevent neonatal healthcare-associated infections.
Methods: PubMed, Scopus and Web of Science databases were searched to identify any RCT study coming from high income countries, published from 2004, that investigated the efficacy of any intervention to prevent HAI in NICU. All type of HAI were considered.
Results: A total of seven studies were included (2 from USA, 5 from UE). Three studies focused on: administration of donor milk; probiotic Bifidobacterium breve; intravenous Staphylococcus aureus immune globulin; all failed to demonstrate any protective action. Of the four remaining studies that investigate different aspect of the vascular catheterization process only two lead a a statistical significant reduction of HAI. Garland et al. demonstrate in 85 neonates how vancomycin-heparin lock solution is capable to reduce catheter related blood stream infection (CRBSI) 8/43 neonates (18.6%) in the control group vs 0/42 in the vancomycin-heparin-lock group ($P = 0.006$). Bertini et al. demonstrate in 86 preterm infants how utilization of AgION catheter in Umbelical vein catheterization (UVC) lead to CRBSI rate reduction (2 vs. 22%; $p = 0.005$), shorter hospital stay ($p = 0.04$), lower case fatality rate due to Blood stream infection ($p = 0.01$).
Conclusions: Among the proposed methodology only the one acting on the catheterization process provide a statistical significant reduction of HAI onset. Widespread observation of proposed protocol may results in reduction of HAI in NICU.

Key messages:

- Modfiication on the catheterization process provide a statistical significant reduction of HAI onset.
- Knowing these measures assure reduction of HAI.

Abstract citation ID: ckae144.1902

Epidemiological characteristics of the 2019 Measles outbreak in central Tunisia

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Background: Measles is still an important public health problem worldwide causing significant morbidity and mortality. Measles represents a vaccine-preventable disease. In Tunisia, vaccination against measles was launched in 1983. In spite of the progress made towards measles elimination, Tunisia experienced an outbreak in 2019. We aimed to describe the measles outbreak in the central region of Tunisia in 2019.

Methods: We carried out a descriptive study using surveillance data from January to December 2019 in four governorates in Tunisia (Monastir, Mahdia, Kairouan, and Kasserine). All suspected measles cases and declared to regional directorate of primary health care were included. A suspected measles case was defined as any person with fever and generalized maculo-papular rash plus one of the following symptoms: cough or coryza or conjunctivitis. A laboratory confirmed measles case is a suspected case of measles that has been confirmed positive by testing (IgM+).

Results: A total of 2,688 suspected cases were recorded, of which 369 cases were (14.7%) were confirmed measles through serological testing. The sex ratio was 1.06 for suspected cases and 1.12 for measles cases. Infants under one year old accounted 42.2% of suspected cases. The majority of suspected cases (67.3%) were not vaccinated. Among confirmed measles cases, positivity rates were 81.8% for unvaccinated, 70.0% for those with one dose and 27.2% for those with two doses. The hospitalization rate was 61.5 %; highest rates were observed in infants under one year of age (65.7%) and in the age group over 38 years (69.0%). In total, 27 deaths were reported. The highest lethality rate was observed in the age group under 12 months (2%).

Conclusions: The 2019 measles outbreak in Tunisia highlighted that this disease remains a serious viral infection. Unvaccinated populations could be a potential source for new outbreaks, imposing substantial public health burdens.

Key messages:

- The country needs to establish a national review committee to monitor measles elimination status.
- To address future challenges, immunity gaps in the population should be closed.

Abstract citation ID: ckae144.1903

Knowledge, Attitudes and Behaviors of Healthcare Workers Working in Malatya Towards COVID-19 Vaccines

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Background: The rapid production of vaccines and the introduction of new vaccine technologies have raised concerns among some individuals regarding anti-vaccination, while others have expressed worries about vaccines. Given that healthcare professionals' recommendations significantly influence people's vaccination decisions, this study aimed to examine the knowledge, attitudes, and behaviors of healthcare professionals working in family health centers towards COVID-19 vaccines.

Methods: Questionnaires for this descriptive cross-sectional study were administered between February and April 2022. The population comprised 408 health workers employed in family health centers in Malatya, with 292 individuals completing the study. The questionnaire included questions about sociodemographic, COVID-19, COVID-19 vaccines and the COVID-19 Fear Scale.

Results: Although 97.3% of the research group reported having received the COVID-19 vaccination, 47.9% expressed concerns about these vaccines. The median score of the COVID-19 Fear Scale was 15 (7.00-35.00). 86.6% of the participants indicated that they recommended COVID-19 vaccines. 16.4% of the participants agreed with the statement 'there are no studies proving the safety of vaccines,' and 49% agreed that 'vaccines pass through clinical trials quickly and are put on the market'. Those who did not recommend COVID-19 vaccines, those who agreed with the statement 'there are no studies proving the safety of vaccines' and those who agreed with the statement 'vaccines pass through clinical trials quickly and are put on the market' were concerned about COVID-19 vaccines with their level of concern significantly higher ($p < 0.05$).

Conclusions: Almost all members of the research group had received the COVID-19 vaccine, yet almost half of them expressed concerns about vaccines. Those who do not recommend vaccines, those who believe they are released quickly, and those who have safety concerns are more likely to be concerned.

Key messages:

- Identify the reasons for health workers' concerns about vaccines and provide remedial interventions for concerns that may arise regarding other vaccines.
- It should be ensured that healthcare professionals, who are expected to be role models for society in terms of immunization, possess scientific and up-to-date knowledge on vaccines.

Abstract citation ID: ckae144.1904

Evaluation of Covid-19 risk perception and psychological status of transplant patients

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Background: Liver transplant patients are in the more at-risk group in terms of COVID-19 infection and mortality due to both immunosuppressive treatment and underlying chronic diseases. The aim of this study was to evaluate the COVID-19 risk perception, compliance with preventive measures, and psychosocial status of liver transplant patients.

Methods: This descriptive cross-sectional survey study included 311 patients who underwent liver transplantation between 2002 -2021 and presented to the outpatient clinic for routine controls. Data were collected via a questionnaire administered through face-to-face interviews. The questionnaire form used to collect the data of the study included a demographic and clinical characteristics form, the Short Depression-Happiness Scale, the COVID-19 Prevention Guidelines Compliance Scale, and the COVID-19 Risk Perception

Scale. The Mann-Whitney U, the Kruskal-Wallis test and Spearman's Rho correlation analysis were used in statistical analyses.

Results: The median age of the transplant patients who participated in the study was 56 (18-76) years. Of the transplant patients, 84.9% stated that they had COVID-19 vaccination. There was a statistically significant, very weak relationship between the scores of the Brief Depression-Happiness Scale and the COVID-19 Compliance with Preventive Measures Scale ($r = 0.132$; $p = 0.02$), and a weak, significant relationship in the same direction between the scores of the COVID-19 Compliance with Preventive Measures Scale and the COVID-19 Risk Perception Scale ($r = 0.344$; $p = 0.001$).

Conclusions: The vaccination rates of the patients were high. As the depression status of the patients decreases, their compliance with preventive measures increases, and as their compliance with preventive measures increases, their risk perception increases.

Key messages:

- Since transplant patients are a vulnerable group, their vaccination status is important in terms of mortality risk.
- Psychological factors such as depression-happiness scores influence adherence to COVID-19 preventive measures among transplant patients.

Abstract citation ID: ckae144.1905
Methodological framework for early detection of dengue outbreaks in Tanzania

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Background: Dengue fever is a major public health problem because it is a widespread and rapidly transmitted mosquito-borne viral disease. We developed a framework for early detection of dengue outbreaks in Tanzania, starting with detection of suspected and/or confirmed cases, followed by site-specific risk characterization, both useful for planning and prioritizing outbreak interventions or epidemic preparedness.

Methods: Our initial focus was on the identification and categorization of indicators that are specifically tailored to the early detection and classification of outbreak events. The framework was then evaluated using (i) available cases with syndromic and laboratory-confirmed disease information from ProMED emails using decision tree analysis, and (ii) available historical dengue epidemic data at the local level from 2019 with 6,795 confirmed cases using negative binomial regression analysis adjusted for month and area.

Results: The laboratory-confirmed diagnosis (dengue yes or no) was consistent with the results of the suspected case classification algorithm for clinically defined syndromic cases. There was strong evidence of an increase in dengue cases with higher site-specific risk (rate ratio = 2.51 (95% CI = [1.76, 3.58])) when regressing confirmed dengue cases in 2019 as the dependent variable and site-specific risk as the independent variable.

Conclusions: The rapid dengue outbreak risk assessment developed may be useful in controlling the epidemic in Tanzania. The suspected case classification algorithm can be a very useful tool to better assess whether a potential dengue case is present and thus requires laboratory confirmation. The framework can be used to rapidly predict the risk of dengue outbreaks, which is useful for planning and prioritizing interventions or for epidemic preparedness.

Key messages:

- Framework for a novel rapid risk assessment for early detection of dengue outbreaks in Tanzania.
- Framework relevant to epidemic preparedness.

Abstract citation ID: ckae144.1906
The disease severity and death outcomes of COVID-19 outpatient cases in Almaty, Kazakhstan 2021-2022

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Background: The global pandemic COVID-19 presented a serious burden on primary health care. We analyzed the association between the age, sex, and comorbidity on the severity and outcomes of COVID-19 in outpatient care in Almaty, Kazakhstan, between 1.1.2021 to 31.12.2022.

Methods: We assessed Odds ratio and 95% Confidence interval (OR, 95% CI) in a retrospective analysis of data on 174.540 COVID-19 patients on outpatient follow-up collected from an primary care electronic database (108,234 women and 66,306 man). Among outpatients 88.9% ($n = 155{,}127$) had mild disease, 8.3% ($n = 14{,}537$) asymptomatic; and moderate/severe disease was observed in 2.8% of cases.

Results: Among the COVID-19 outpatients, the incidence of diabetes mellitus was significantly higher in women (3.1%) then man (2.4%) ($p < 0.001$), obesity was more common in women (0.6%) than in men (0.4) ($p < 0.05$), and arterial hypertension was more common in men (10%) versus women (6.2%) ($p < 0.001$). The probability of developing moderate/severe disease increased significantly with age, especially in those 60 years and older, where it was 9 times higher ($p < 0.001$, $OR = 9.01$, 95% CI: 7.7-10.5), and where the probability of lethal outcome was very high ($OR = 61.8$, 95% CI: 8.5-446.2, $p < 0.001$) too. The odds of developing moderate/severe COVID-19 were 1.4 times higher in patients with diabetes mellitus ($p < 0.001$, $OR = 1.43$, 95% CI: 1.27-1.6), 2.5 times higher in obese patients ($p < 0.001$, $OR = 2.51$, 95% CI: 1.9-3.15), and in patients with chronic obstructive pulmonary disease ($p < 0.001$, $OR = 2.5$, 95% CI: 2.13-3.02), and the presence of arterial hypertension increased the risk 1.2-fold ($p < 0.001$, $OR = 1.16$, 95% CI: 1.07-1.26).

Conclusions: In Almaty outpatients, an association between the moderate and severe COVID-19 and age and comorbidity (diabetes mellitus, obesity, arterial hypertension, and COPD) was found, which underscores the necessity of more research on primary care organization and delivery in health emergencies.

Key messages:

- An increase of severe COVID-19 in elder outpatients and with comorbidity emphasizes the need for their effective protection.
- The research on the impact of various factors on the disease severity and outcomes in outpatients can assist in optimizing primary care.

Abstract citation ID: ckae144.1907
Implementation evaluation of a school-based intervention on HPV vaccination (the PrevHPV study)

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Background: HPV vaccine coverage (VC) remains lower than expected in many countries, particularly France. We developed and evaluated the PrevHPV multicomponent intervention to improve HPV VC among French adolescents. We evaluated the implementation of the school-based components of the intervention.

Methods: We carried out a mixed-method study embedded in a cluster randomized controlled trial (July 2021-April 2022; 14/25 French school districts). The cluster was the municipality (n = 91). The school-based components of the intervention were 'education and motivation' and 'at-school vaccination'. Quantitative data were collected through standardized activity reports and self-administered questionnaires; the implementation outcomes were fidelity, dose, reach, acceptability and sustainability. Qualitative data were collected through semistructured group interviews with school staff and analyzed using the Consolidated Framework for Implementation Research.

Results: We found high rates for: fidelity (e.g., 69% of the targeted classes had two educational sessions and 89% of schools invited all pupils for at-school vaccination, as planned); acceptability (e.g., pupils' participation satisfying in 90% of the sessions, 96% of vaccinated pupils and 78% of school staff satisfied with at-school vaccination); and sustainability (e.g., respectively 91% and 76% of schools considered conducting sessions and vaccination days during the following year). However, the withdrawal of 1/3 of schools before the trial started and difficulties in mobilizing parents negatively impacted dose and reach. Several facilitators and barriers influenced the implementation of the components; they were related to the components' design, the characteristics of both the external and internal environment of the school, the numerous stakeholders and individuals involved, and the implementation strategies used.

Conclusions: These results can guide policy making on school-based HPV vaccine promotion in France and Europe.

Key messages:

- The PrevHPV study is supported by the French health authorities and conducted by a multidisciplinary consortium to tackle a long-lasting public health concern in France.
- These findings have practical implications for implementing effective and acceptable school-based interventions in real life to improve HPV vaccine uptake and reduce HPV-associated burdens.

Abstract citation ID: ckae144.1908
Breastfeeding knowledge, attitudes and practices of HIV-positive women in Africa, a systematic review

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Background: Breastfeeding (BF) is essential to ensure the health and survival of children, especially in regions where diarrhoea, pneumonia and malnutrition are common causes of child mortality. The WHO currently recommends, along with antiretroviral treatment, exclusive BF (EBF) for the first six months and mixed BF for the next six months and extending it to 24 months. In sub-Saharan Africa, more than one million HIV-positive women face the challenge of infant feeding due to limited access to treatment and safe water. The aim of this study was to understand the knowledge, attitudes, and practices of HIV-positive mothers in Africa to provide evidence for public health strategies.

Methods: We conducted a systematic review of studies on Knowledge, Attitudes and Practices of BF among HIV-exposed children in African countries, following the principles of the PRISMA statement and identified by searching major databases of records published between 2013 and 2023.

Results: Of the 498 articles identified, 21 met the inclusion criteria. 70% of the studies were conducted in Ethiopia, South Africa, and Kenya. 95% of the studies were conducted in health care facilities. Mothers showed good knowledge, attitudes and practices regarding EBF of HIV-exposed children, but low knowledge and fear of continuing to practice BF later on. The HIV-positive mothers mentions a range of recommendations received from health workers, identified as their main source of information. Stigma against mothers who practice EBF was found. The primary reason for early cessation of BF was due to work.

Conclusions: Knowledge, attitudes, and practices of the infant feeding currently recommended by WHO for HIV-positive mothers was weak. There is little evidence of what happens in other African countries and in women with limited access to the health system. Public health policies need to be strengthened to ensure that health workers are trained in the current guidelines to improve HIV-positive women's BF.

Key messages:

- HIV-positive mothers are afraid to continue breastfeeding their babies after 6 months.
- More studies about the breastfeeding practices of children of HIV-positive mothers with limited access to health services are needed.

Abstract citation ID: ckae144.1909
Screening for congenital Chagas disease in a non-endemic area: a cost-effectiveness analysis

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Background: Due to climate changes, immigration, and globalization, Chagas Disease (CD) also afflicts nations without vector transmission. In Europe, congenital CD (cCD) is a significant public

health issue, perpetuating the disease: it is crucial to perform CD screening in pregnant women at risk, as the treatment of infants is effective in eradicating the infection. Only a few European regions have a definite algorithm for diagnosing cCD, but no official guidance has been published at the national or European level. To support policymakers, this study aims to outline a cost-effectiveness analysis of CD screening in non-endemic areas, such as Italy, in pregnant women born or arriving from endemic countries and in their newborns.

Methods: To measure the economic impact of cCD screening, a decision tree model will be used to compare the test option (screening, diagnosis, treatment, follow-up) with no test option (no screening, progression of disease). Model parameters will be taken from relevant scientific literature. The primary outcome will be the Incremental Cost-Effectiveness Ratio (ICER) between the two options. Sensitivity analyses will be conducted to determine how changes in prevalence, transmission rate, screening adherence, and treatment adherence may affect the ICER.

Results: We expect the ‘test’ option to be cost-effective even with significant reductions in prevalence, transmission rate, adherence to screening or treatment. Threshold levels of these variables will allow to critically extend the results to areas with reduced immigration, patchy distribution of migrants at risk, health logistical limitations, and limited access to care for immigrants.

Conclusions: Our findings can help policymakers implement official screening programs and diagnostic algorithms for cCD in Italy and other non-endemic countries. This contributes to SDG 3 by combating the spread and burden of neglected tropical diseases and contributing to maternal, child, and migrant health.

Key messages:

- Screening for congenital Chagas Disease in a non-endemic area may be cost-effective and cost-saving.
- Study findings could provide useful information for health policymakers to combat Chagas Disease in Europe.

Abstract citation ID: ckae144.1910
Advancing data-driven decision-making for human papillomavirus (HPV)

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Background: HPV is among the most important infections associated with cancers in men and women, including cervical cancer which is the second most common cancer affecting women aged 15-44 years in the EU. Yet, data on vaccine uptake, HPV infection rates and incidence of related cancers is lacking across Europe, obstructing policymakers’ ability to build adequate prevention strategies towards the EU’s goal of eliminating HPV-related cancers.

Methods: Vaccines Europe analysed the landscape of data collection practices for HPV, highlighting discrepancies across Europe as well as successful initiatives.

Results: Our analysis reveals stark gaps in data collection across Europe. Some countries do not report disease levels and vaccination coverage for HPV. When reporting does occur, methods and timelines often differ between countries. Limited data availability exists for vaccination uptake in boys and young adults. This lack of standardisation hinders the comparability and reliability of collected data. It also impedes the integration and analysis of data within and across countries, hindering the development of effective elimination strategies. Concrete actions are needed at EU and national level to further develop and strengthen data collection, sharing and use in decision-making. Our research calls on strengthening ECDC’s role, promoting best practice sharing between countries, ensuring sustained resource allocation for data systems/surveillance, establishing electronic vaccination registries, an EU implementation roadmap to support countries in achieving the objectives of Europe’s Beating Cancer Plan, and translating data into policy recommendations. The Council Recommendation on vaccine-preventable cancers provides a framework for EU Member States to establish electronic vaccination registries and the ECDC to develop an HPV dashboard by the end of 2024.

Key messages:

- Current data collection practices leave Europeans more vulnerable in the fight against cancer.
- Robust data can guide policy and support elimination strategies for vaccine-preventable cancers.

Abstract citation ID: ckae144.1911
Do the prevention procedures work in reducing infections?

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Introduction: Healthcare-associated infections (HCAIs) pose significant challenges in healthcare settings. Poor environmental hygiene contributes to HCAI. This study aims to evaluate and to assess the effectiveness of HCAI containment practices in nursing homes (NH).

Methods: The study examined infection prevention procedures in eight NHs supervised by the Multidisciplinary Commission of the Tuscany South-East Local Health Authority of Italy. Infection frequencies were obtained from NHs management and compliance with preventive procedures was assessed by inspection reports. Infection prevention protocols, including cleaning and disinfection procedures, were referenced from ministerial guidelines for hospital and territorial facilities. Comparisons was done whit Mann-Whitney test, using STATA.

Results: In 2023 more frequent infections were SARS-CoV-2 (19.5%), urinary tract infections (17%), pharyngitis (15.7%), influenza-like syndromes (ILI) (15%), and pneumonia (9%). Compared to 2022, significant improvements were observed in legionellosis surveillance, laundry, sanitary procedures, instrument disinfection, and hairdressing services. Non-compliance to specific procedures revealed differences in infectious onset like cleaning process verification with fungal infections ($P = 0.01$; $M = 2,5$), gastrointestinal infections ($P = 0.04$; $M = 1.5$); cleaning sanitary pans with Clostridium Difficile gastrointestinal infections ($P = 0.04$; $M = 2$); instrument disinfection with gastrointestinal infections ($P = 0.04$; $M = 1.5$) conjunctivitis ($P = 0.01$; $M = 8$); laundry procedures with pneumonia ($P = 0.04$; $M = 18$) and ILI ($P = 0.04$; $M = 35$).

Conclusions: These findings emphasize the importance of well-defined procedures in reducing HCAIs. While preventive measures demonstrate efficacy, continuous efforts are necessary for their consistent implementation. Continuous monitoring and stakeholder engagement are essential for developing sustainable strategies in preventing healthcare-associated infections.

Key messages:

- Healthcare-associated infections are a significant complication in the healthcare sector and require effective practices in nursing homes.
- Prevention measures are effective, but continuous and collaborative effort is needed to ensure their uniform implementation and develop more effective strategies in preventing HCAI.

Abstract citation ID: ckae144.1912
ESPRIT study, analysis of the results of the pre-intervention survey in upper secondary schools

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Background: Sexually transmitted infections are a major public health problem, and their number is increasing in Italy. However, affective sexuality education is not yet part of the curricula. Therefore, a project entitled ESPRIT was launched, involving 3 regions (Friuli-Venezia Giulia, Lazio and Sicily), the IRCSS 'Burlo Garofolo' and the Istituto Superiore di Sanità, and implemented with the technical and financial support of the Ministry of Health - CCM.

Methods: A multicenter prospective intervention study was designed involving public upper secondary school students (grade 10-11). All target groups completed a KAP (knowledge, attitude, practice) questionnaire before and after participation in the educational intervention to measure its effectiveness. The questionnaires from the first phase were collected between January and April 2024, and the results were analyzed using R statistical software.

Results: The analysis of the overall results (463 students in total; female 58%, male 39%, other 2%; FVG 49%, Lazio 25%, Sicily 26%) showed that the group of upper secondary school students, targeted by peer education answered the knowledge part correctly by 56.6± 13.8% on average. Applying the Kruskal-Wallis test showed that the percentage was significantly higher for females than males (p-value=0.005) and for licei students compared to technical and vocational schools (p-value=0.000). In terms of to attitudes, only 17% of students talked at length about sexually transmitted infections, and in 86.6% of cases, the interlocutors were friends or peers.

Conclusions: The results of the first phase show differences between the sexes and between the different types of educational institutions. The current level of knowledge still leaves much room for intervention and improvement. Analyzing the results of the follow-up phase will allow us to understand the effectiveness of the peer education intervention.

Key messages:

- Adolescents' knowledge of sexually transmitted infections needs to be improved.
- Gender and the type of school attended affect the level of knowledge.

Abstract citation ID: ckae144.1913
Results of a 5 year Antimicrobial Stewardship program in a North Italian Hospital

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Issue: A National Action Plan (PNCAR) to fight antimicrobial resistance has been launched in Italy in 2017, further revised in 2022. In order to reduce inappropriate exposure to antibiotics and infections from multidrug resistant bacteria, a structured system of surveillance and monitoring according to PNCAR standards has been set up in all Italian regions. In the Hospital of Cittadella (District of Padua, Veneto region), special focus has been given to the reduction of antibiotic consumption, in particular quinolones, third generation cephalosporins, carbapenems and macrolides.

Description: Multidisciplinary meetings have been monthly organized by the hospital Antimicrobial Stewardship Group, with the aim of coordinating the implementation of specific stewardship actions. A quantitative estimate of antibiotic consumption (defined daily dose - DDD - consumption per 100 days of hospitalization) has been provided by the Regional data warehouse from 2019 to 2023 regarding all classes of antibiotics.

Results: Between 2019 and 2023 a clear decrease in the consumption of quinolones (from 8 to 5,8 DDD, -28%) and carbapenems (from 2,5 to 1,3 DDD, -48%) was observed but, at the same time, an increase in the consumption of third generation cephalosporins (from 9 to 15,7 DDD, +74%) has been reported. This can be explained as a direct consequence of the correct application of therapy guidelines, which in several cases suggest the use of ceftriaxone instead of meropenem. Finally, after an increase in the consumption of macrolides during the first COVID-19 pandemic wave, the consumption of this class of antibiotics has returned to pre-pandemic level.

Lessons: Constant monitoring of antimicrobial consumption and the identification of warning situations that may need to implement specific actions are the cornerstone of Antimicrobial Stewardship programs. Targets must be defined analyzing data of bacterial resistance rates and infections from multidrug resistant bacteria.

Key messages:

- In Antimicrobial Stewardship programs it is important to adopt constant monitoring of antimicrobial consumption.
- Antimicrobial stewardship programs need to be adapted according to the characteristics of each hospital.

Abstract citation ID: ckae144.1914
An international comparison of Long-term Care Facility outcomes during the COVID-19 pandemic

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Background: The COVID-19 pandemic has had huge repercussions for public health internationally and different countries had different outcomes based on preconceived policy interventions. Lessons influencing future policy have been learned, notably how best to manage vulnerable populations, particularly those living in long-term care facilities (LTCFs). In Ireland LTCF residents accounted for 56% of deaths during the first wave of the pandemic and it is imperative to establish the causes of this. International research has highlighted how factors including county incidence rate, facility size, occupancy, LTCF ownership and compliance with health inspection regulations influenced LTCF COVID-19 outcomes. The aim of this research is to explore the impact of these factors in an Irish context and compare to best international standards.

Methods: The main outcome considered was deaths per 100 beds. Data on crude mortality were available for 580 Irish LTCFs up to 28 May 2020. Data regarding occupancy, ownership, facility size and compliance with regulations were obtained for these LTCFs from a novel dataset of 1130 available LTCF regulatory inspection reports between 2018- 2022. Regression analysis was carried out to show how LTCF mortality was predicted by examined variables.

Results: The most significant predictor of deaths from COVID-19 in Irish LTCFs resulting from this research was LTCF occupancy (Odds ratio:1.029, significance <0.001). Regional community incidence, in concordance with international literature was also an important factor. Other stated predictors in this model were either non-significant or only marginally significant. These results are analysed in conversation with international research of the same variables.

Conclusions: To protect LTCF residents for potential future pandemics, attention should be paid to monitoring and suppressing local incidence rates and moves should be implemented towards designing smaller facilities with individual rooms for vulnerable residents.

Key messages:

- Irish long-term care pandemic mortality was predicted by high occupancy of facilities and high regional COVID-19 incidence.
- Comparing International COVID-19 outcomes in long-term care facilities can provide guidelines for the future.

Abstract citation ID: ckae144.1915
Uncovering the health system burden of pneumococcal infections in adult and elderly populations

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Background: Health system resources dedicated to vaccination and infectious disease prevention are often directed towards infants and children, through extensive childhood vaccination schedules. This focus has led to the near eradication of several preventable childhood diseases and had positive impacts on population health, but despite this track record of success, the ability of our health systems to make vaccinations accessible throughout the full life course has been less consistent. This project aims to address this issue by providing new data about the burden that pneumococcal infections, which are vaccine-preventable, have on adult and elderly populations.

Methods: This research aims to uncover the health system burden of invasive pneumococcal disease and pneumococcal pneumonia at all levels of the health system in 5 EU countries (Austria, Belgium, France, Italy & Portugal). This involves a survey of managers and care providers working in hospitals, long-term care facilities, and primary care centres who may be affected by the health system impacts of pneumococcal infections. The survey covers several dimensions of health service delivery to collect a broad range of data on existing disruptions. The survey was translated into the study country languages and its formulation was further validated through interviews with experts in each study country to ensure that it can capture context-specific health system insights. The data collected through this survey will be further enhanced through a series of in-depth interviews before being synthesised, analysed and eventually published in a detailed report.

Results: Data collection begins as of 15 May 2024, and full results are expected to be published and available for the EPH Conference in November 2024. The results of this research will offer valuable evidence to public health professionals, health managers and policymakers across Europe who are working to improve life-course access to pneumococcal vaccination.

Key messages:

- Effective vaccination programmes for adult and elderly populations require expanding focus beyond childhood.
- Data about the health system burden of pneumococcal infections in adult and elderly populations improves evidence-based decision-making and public health services.

Abstract citation ID: ckae144.1916
Antibiotic use and resistance: knowledge, attitudes and practices in Italian healthcare workers

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Background: Antimicrobial resistance (AMR) is one of the most significant public health challenges globally. The misuse or incorrect use of antibiotics has led to the emergence of resistant bacteria, making it increasingly difficult to treat infections. This study aims to identify knowledge, attitudes, and practices among Italian healthcare workers (HWs) - medical doctors (MDs) and nurses - regarding antibiotics, antibiotic use, and antibiotic resistance.

Methods: Cross-sectional study; a validated questionnaire from the European Centre for Disease Prevention and Control was distributed via web survey starting from April 2024 to a voluntary sample of healthcare workers employed in Italy. Descriptive analysis and multivariable logistic regression were performed to investigate predictors of knowledge regarding antibiotic use and AMR. Ethical approval was obtained from the local ethics committee.

Results: So far, 154 HWs were enrolled, of which 132 were nurses (85.7%). The average level of knowledge regarding AMR and antibiotic use was 6.8/7 (± 0.2) for MDs and 6.1/7 (± 0.2) for nurses, with an overall score, among HWs of 6.19 (± 0.99), compared to a European average of 6.35. The multivariable analysis highlighted that the medical profession reported higher knowledge regarding prudent antibiotic use and AMR (aOR 6.90; 95% CI 1.83-26.01, p-value = 0.004), while concerning professional practice, the unavailability and difficulty of access to guidelines seemed to increase the risk of reporting inadequate knowledge (aOR 2.04; 95% CI 1.01-4.13, p-value = 0.046).

Conclusions: Our preliminary results provide an insight into the importance of structuring and actively disseminating procedures/protocols and guidelines to deepen the issues of AMR and prudent antibiotic use. Also, there appears to be a need to enhance the delivery of refresher courses targeting HWs, with particular attention to settings at high infection transmission risk. EU funding: Project no. PE00000007, INF-ACT.

Key messages:

- Although a higher knowledge about prudent antibiotic use and AMR, more efforts are needed to increase access to guidelines.
- Constant updating of knowledge and practices is necessary to face the challenges of antibiotic resistance in public health.

Abstract citation ID: ckae144.1917
Infectious disease prevention among internally displaced people: Perspectives from Lviv, Ukraine

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Background: The ongoing war in Ukraine has increased the risk of infection spikes, especially among internally displaced people. The healthcare challenges in the war context necessitate teaching the population of preventative measures, which have become the primary vector of the activities of the Ukrainian Regional Centers for Disease Control and Prevention.

Objectives: The research aimed to highlight the activities of the Lviv Regional Center for Disease Control and Prevention (CDC) in relation to internally displaced people.

Methods: The research project analyzed the incidence rate of infectious diseases and vaccination coverage data among the population and internally displaced people in the region. The data were collected from monthly reports of CDC's departments and alert messages sent by primary care institutions to the CDC.

Results: According to the Single register of internally displaced people (IDP), 13% of internally displaced people were permanently staying in the Lviv region (the second place was Zakarpattia region - 9% of IDP, and the third was Kyiv - 7% of IDP). In the Lviv region, 237,000 people registered as forcibly displaced. Total, over 700, 000 people are in the area, including the unregistered and 68,000 children. In 2022-2023, the morbidity rates among IDPs did not exceed the rates among the general population in the area. Each IDP residence place had its physician; 11 thousand IDPs were vaccinated, and 3,235 of those were children. In general, 46 mobile medical brigades worked on-site in the Lviv region. Only one spike of gastrointestinal infection was registered. CDC employees provided lectures and workshops on hygiene and food storage in 56 IDP residence places.

Conclusions: The review results show that coordination between CDCs, local physicians, and mobile medical brigades in the IDP residence areas prevents outbreaks of infectious diseases and swiftly responds to emerging threats.

Key messages:

- The tragic events in Ukraine resulted in healthcare access issues. Lviv CDC, fighting at its own forefront, quickly assessed the risks and efficiently managed the potential hazards.
- The Lviv region remains one of the biggest hubs in Ukraine for the temporary residence of internally displaced people, with CDC employees ensuring that preventive measures are effectively carried out.

Abstract citation ID: ckae144.1918
Antimicrobial stewardship program in one primary care hospital, a snapshot analysis

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Antimicrobic resistance (AMR) continues to rise, whereas development of new agents to counter it has slowed. A heightened need to maintain the effectiveness of currently available agents exists. Healthcare-associated infections (HAIs) are a significant cause of poor treatment outcomes and elevated healthcare and societal costs worldwide. At the beginning of 2024, we started a prospective, interventional, interrupted time-series study, based on Prospective Audit and Feedback in the Intensive Care Unit (ICU) and in the internal medicine ward of our hospital. The primary outcomes will be the difference in the antibiotic consumption, and the incidence of bloodstream infections (BSI) caused by multidrug-resistant (MDR) organisms. The secondary outcomes will include the hospital mortality rate, the mean length of stay and the antibiotic expense. We conducted a snapshot analysis of the first three months to assess the efficacy our program. In the first three months we registered a global reduction in antibiotic expense (almost by half in comparison of 2023 first quarter) and consumption, particularly in the use of carbapenems: (change in level, CL: -51,26 DDD/1000 PD,) and third-generation cephalosporins (CL: -6 DDD/1000 PD). We registered a reduction in the use of hydroalcoholic gel, probably due to the reducted perception after the waning of risk perception towards Covid-19, although no big difference was observed in BSI incidence due to MDR Gram-negative organisms (CL: +1,2 events/1000 PD). Albeit partial, once again these findings demonstrated that implementation of an antimicrobial stewardship program, no matter the level of healthcare, is critical for fighting the AMR and to lessen the burden on Public Health; in particular our program induced a significant reduction in antibiotic consumption that lead to more funds at disposal to improve our clinical practice.

Key messages:

- Once again our findings demonstrated that implementation of an antimicrobial stewardship, no matter the level of healthcare, is critical for fighting the AMR.
- Our program induced a significant reduction in antibiotic consumption.

Abstract citation ID: ckae144.1919
European guidelines for the management of tuberculosis screening in migrants: a systematic review

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Background: This systematic review assesses the current available evidence across the WHO European region on the effectiveness and cost-effectiveness of the different approaches used for TB screening and also explores the facilitators and barriers that migrants face during screening programs.

Methods: We conducted an extensive, comprehensive, and systematic literature search across multiple databases, including MEDLINE, Cochrane, Scopus, and ISI Web of Knowledge, without any restrictions on publication date or language. In addition, we reviewed grey literature and reports from WHO. The data were meticulously analyzed using RStudio, with a focus on screening effectiveness indicators, such as infection and disease detection rates, uptake, coverage, and cost-effectiveness economic analyses.

Results: Our review included 43 studies covering over 8 million migrants from 11 countries. The findings demonstrate that while screening uptake was high, coverage varied, and completion rates for preventive treatments were low. Economic analyses supported the high cost-effectiveness of the screening programs, particularly when integrating both active TB and LTBI screening strategies.

Conclusions: The implementation of uniform screening protocols could potentially streamline efforts, reduce TB transmission, and offer substantial public health and economic benefits, making this research highly relevant for policymakers and healthcare providers.

Key messages:

- An important strength of this study lies in its pioneering approach of current recommendations regarding screening for latent tuberculosis infection and active TB within the WHO European region.
- This is the first study that provides a comprehensive overview of screening interventions across 11 countries and incorporates studies with large sample sizes (n > 8 million migrants).

Abstract citation ID: ckae144.1920
A systematic review of practices against healthcare associated infections and antibiotic resistance

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Introduction: Antimicrobial Resistance (AMR) and Healthcare-Associated Infections (HAIs) can be preventable by promoting Infection Prevention and Control (IPC) practices. Despite the available evidence, there are still significant gaps regarding the combined and cumulative effects of AMR drivers, IPC practices and HAIs. To address this issue, we conducted a Systematic Review to evaluate the impact of AMR drivers and the effect of IPC practices on epidemiological variation of HAIs.

Materials and methods: After designing the protocol, the systematic literature search has been performed on PubMed, Scopus, and Web of Science. After obtaining the relevant articles, citations were imported into the Rayyan Systematic Review Software. Subsequently, basing on the predetermined inclusion criteria, articles screening process was conducted firstly evaluating the title and abstract of each article and then by full text reading. The predesigned data extraction template included first author's last name, year of publication, location, study title, study design, aims of research, involved wards, population groups, type of Multidrug Resistant (MDR) pathogens, interventions, and outcomes.

Results: Literature search strategies identified 3,637 records in the databases consulted. After de-duplication, 2,881 titles and abstracts remained for screening, and 435 full-text articles were assessed for eligibility. Preliminary results show that among the eligible studies 4% had a pre-post study design, 25% focused on Intensive Care Units, 33% investigated antibiotic usage and antimicrobial stewardship, 17% investigated hand hygiene adherence and 10% analysed the compliance to IPC practices.

Conclusions: The knowledge gained from this comprehensive approach will be used to harmonize the AMR drivers explored to improve the general IPC measures. Moreover, this evidence will improve national awareness and will be important in identifying potential interventions on Governance and IPC measures to contrast AMR.

Key messages:

- In the battle against AMR, it is crucial to recognize the impacts of its drivers and the effect of IPC practices.
- AMR and HAIs can be prevented through comprehensive IPC programs.

Abstract citation ID: ckae144.1921
COVID-19 premature mortality in Serbia: Does the place of death matter?

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Background: The COVID-19 pandemic has significantly impacted healthcare services provision in Serbia and globally. Many people did not seek or reach healthcare due to various reasons, and a significant number of COVID-19 deaths were not confirmed by laboratory testing. Within the project of the Laboratory for Strengthening Capacity and Performance of Health System and Workforce for Health Equity, we assessed the differences in years of life lost (YLL) of COVID-19 death cases according to the place of death.

Methods: The Statistical Office of the Republic of Serbia provided average life expectancy and anonymous individual mortality data of the Serbian population in 2020, 2021, and 2022, where COVID-19 was the underlying cause of death (ICD-X codes: laboratory confirmed - U07.1 and clinically diagnosed - U07.2), also disaggregated by the place of death (at home or in a hospital). Analytical statistics and nonparametric tests were used to assess the differences in premature mortality by place of death with a significance level set at $p < 0.05$.

Results: In all observed years, a total of 45,632 death cases due to COVID-19 occurred (94.3% in hospital and 5.7% at home). Most COVID-19 deaths were coded as U07.1 (93.8% in hospital, 91.3% at home). An average of 12.12±7.50 YLLs was estimated per death, with a median of 11.50. There was a significant difference ($p < 0.001$) in the median number of YLLs between those who died in the hospital (11.50) and those who died at home (6.78). Furthermore, deaths occurring at home had fewer YLLs but were more frequently coded as U07.2 ($p < 0.001$).

Conclusions: The place of death is relevant when assessing the impact of COVID-19 on premature mortality in Serbia. On average, persons who died at home due to COVID-19 had a lower number of YLLs compared to those who died in a hospital. More research is necessary on the other factors contributing to premature mortality and inequalities in the COVID-19 burden in Serbia.

Key messages:

- During the first three years of the COVID-19 pandemic in Serbia, 5.7% of COVID-19 deaths occurred at home, resulting in an average of 9.89 years of life lost.
- The COVID-19 pandemic highlights the need to investigate deaths that occur at home and improve pandemic preparedness.

Abstract citation ID: ckae144.1922
Scoping Review of Pre-Exposure Prophylaxis and Post-Exposure Prophylaxis in HIV Prevention in Türkiye

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Background: Pre-Exposure Prophylaxis (PrEP) is a medical -anti-retroviral- prevention method that reduces the risk of HIV transmission during sexual intercourse or injection drug use. Post-exposure prophylaxis (PEP) refers to taking medicine after risky exposure. The European Centre for Disease Prevention and Control (ECDC) has recommended the integration of PrEP into the existing HIV prevention packages since 2015. In Türkiye, first PrEP Guideline was published in 2022. The aim of this study is to evaluate the literature gap on the PrEP and PEP for HIV prevention research in Türkiye.

Methods: This study was conducted in October 2023. Searches were performed using the keywords ‘HIV, AIDS’ and ‘Pre-exposure prophylaxis, PrEP, Post-exposure prophylaxis, PEP’ in PubMed, Web of Science, Scopus, TRDizin, and Dergipark for all years. ‘Türkiye, Turkey, Turkish’ were added into the keywords in international indexes, without using country filters. Inclusion criteria were research on PrEP or PEP for HIV, research conducted in or using data from Türkiye, publications in English/Turkish. Exclusion criteria were non-HIV topics, non-Turkish data, non-English/Turkish publications. Lists were merged, duplicates were removed. Inclusion-exclusion criteria were conducted at title and abstract level. Full texts of the included articles examined for bibliometric characteristics, study types, and key results.

Results: 1014 publications yielded, 993 evaluated, and 17 fully reviewed. Four discussed Türkiye’s PrEP practices (2018-2023); three analyzed PEP regimens; three were reviews on PrEP/PEP in Türkiye (2016-2022). Two original research articles explored PrEP awareness among Türkiye’s men having sex with men (2022) and infectious disease physicians’ attitudes toward PrEP (2020). Studies showed gaps in PrEP information and service access.

Conclusions: There are limited studies published on PrEP and PEP in HIV prevention in Türkiye. This study highlights the need for local research on the topic.

Key messages:

- Evaluation of Pre-Exposure Prophylaxis (PrEP) and Post-Exposure Prophylaxis (PEP) publications highlights gaps in HIV prevention research.
- Limited literature on PrEP and PEP in HIV prevention emphasizing the need for further studies and improved access to PrEP information.

Abstract citation ID: ckae144.1923
Estimating the impact of the COVID-19 vaccination programme in Ireland: December 2021-March 2023

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Background: In Autumn 2023, COVID-19 booster vaccines were offered to all those aged ≥50 years in Ireland. There was concern that vaccine fatigue would impact uptake. We aimed to quantify the direct impact of the COVID-19 vaccination programme on averted outcomes in individuals aged ≥50 years, during a period of Omicron variant dominance, to inform vaccination strategy and public health communication.

Methods: We conducted a retrospective observational study from December 2021 to March 2023 in Ireland. We considered as averted outcomes symptomatic SARS-CoV-2 presentations to primary care, emergency department (ED) presentations, hospitalisations, intensive care unit (ICU) admissions and deaths due to COVID-19. We used an adapted formula from other vaccine impact published studies, including national data on notified outcomes, vaccine coverage data and vaccine effectiveness (VE) estimates, sourced from the WHO’s live systematic VE review, to estimate the count and prevented fraction of outcomes in ≥ 50-year-olds averted by the COVID-19 vaccination programme. The number of expected outcomes in the absence of vaccination was calculated by summing the counts of outcomes observed and outcomes averted.

Results: Between December 2021 and March 2023, the COVID-19 vaccination programme averted 48,551 symptomatic presentations to primary care (36% of expected), 9,517 ED presentations (53% of expected), 102,160 hospitalisations (81% of expected), 3,303 ICU admissions (89% of expected) and 15,985 deaths (87% of expected).

Conclusions: During Omicron dominance, the COVID-19 vaccination programme averted symptomatic and severe outcomes, including deaths due to COVID-19, underscoring the benefits of COVID-19 vaccination. In the context of vaccine fatigue emerging as an important public health issue in Ireland and internationally, these findings can inform future COVID-19 booster vaccination programmes and communication about the reason for and importance of COVID-19 vaccination.

Key messages:

- The COVID-19 vaccination programme in Ireland prevented illness and death in people aged ≥50-years. Vaccination therefore protected population health and the healthcare system.
- These findings can be used to inform future COVID-19 vaccination policies, planning for winter, pandemic preparedness and communisation about the importance of ongoing COVID-19 vaccination programmes.

Abstract citation ID: ckae144.1924
Influenza vaccine effectiveness in Ireland during two influenza seasons, 2022/23 and 2023/24

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Background: Live Attenuated Influenza Vaccine (LAIV) is recommended in Ireland for all children aged 2-17 years. Quadrivalent influenza vaccine is recommended for all others eligible for vaccination, including those aged ≥18 years with underlying medical conditions and all aged ≥65 years. We aimed to estimate influenza vaccine effectiveness (IVE) against Acute Respiratory Infection (ARI) presentations to primary care due to influenza over two influenza seasons in Ireland, to inform vaccination recommendations and communication campaigns.

Methods: We undertook a test-negative design case control study within the national sentinel surveillance General Practice network, as part of the European Vaccine Effectiveness Burden and Impact Studies (VEBIS) network. We compared influenza vaccination status among influenza Polymerase Chain Reaction (PCR) positive cases with influenza PCR negative controls, amongst patients consulting with ARI. We verified vaccination status using the national influenza vaccination database. We estimated end of season IVE for

2022/23, and mid-season IVE (up to 7th April 2024) for 2023/24, using multivariable logistic regression and adjusting for age, onset time, medical condition, and sex.

Results: In 2022/23, there were 288 cases and 765 controls. In 2023/24 there were 515 cases and 1,482 controls. Overall vaccination coverage was 23% in both seasons. Coverage in 2-17 year-olds was 10% in 2022/23 and 12% in 2023/24. In 2022/23, overall IVE was 42% (95%CI 9-54) and 50% (95%CI -30-83) in 2-17 year-olds. Overall IVE in 2023/24 was 37% (95%CI 16-54) and was 67% (95%CI 28-87) in 2-17 year-olds.

Conclusions: Influenza vaccination reduced medical attendance to primary care with ARI due to influenza, demonstrating benefits of vaccination, particularly among children. Influenza vaccination should continue to be offered and promoted to recommended groups, including children.

Key messages:

- This study suggests that influenza vaccination protected population health and the health service from medical attendance to primary care with acute respiratory infection due to influenza.
- Higher influenza vaccine effectiveness was observed in children aged 2-17 years. These findings can inform influenza vaccination programmes with LAIV for children in Ireland and internationally.

Abstract citation ID: ckae144.1925
Organizational barrier to herpes zoster vaccination uptake in Europe: a systematic review

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Background: The Herpes Zoster virus represents a significant public health threat for unvaccinated frail individuals and older adults, aged 50 or older. Globally, 95% of elderly and frail individuals are susceptible to develop Herpes Zoster as already being exposed to Varicella Zoster Virus. Organizational and logistical barriers, such as cost management, vaccine storage requirements, supply limitation, logistic difficulties, absence of a streamlined collection system, and healthcare system deficiencies might reduce vaccination uptake.

Methods: A systematic review was conducted to identify studies published in the last 10 years, and focused on logistic and organizational barriers for Herpes Zoster vaccination uptake among frail and participants aged 50+ in Europe. Prisma guidelines were followed, and AXIS tool was used to evaluate the risk of bias.

Results: After a thorough analysis, 4 studies were selected from a total of 863 for detailed review. The analysis revealed several barriers to vaccination uptake, including challenges involving healthcare professionals, participant-related obstacles concerning perceptions and knowledge, accessibility issues, structural deficiencies, and social dynamics. A significant barrier identified is the perception among participants that general practitioners either do not support the vaccination or that participants themselves underestimate the risk of developing Herpes Zoster. Additionally, current communication strategies have proven inadequate, indicating a need for more effective and updated approaches to increase public awareness. These factors contribute to hesitancy regarding vaccination.

Conclusions: This study provides a comprehensive examination of the organizational and logistical barriers to the Herpes Zoster vaccination uptake. Tailored interventions are essential to overcome these barriers. Successfully addressing these challenges might enhance vaccination rate and reduce the public health burden associated with Herpes Zoster.

Key messages:

- Several logistic and organizational barriers reduce the Herpes Zoster vaccination uptake.
- Further literature is required to understand how to overcome those barriers, and increase vaccination uptake.

Abstract citation ID: ckae144.1926
Factors associated with mosquito-borne disease protective behaviour in metropolitan France

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Background: Mosquito-borne diseases (MBD) are increasing and expanding their range throughout metropolitan France. Promoting individual protective behaviour is imperative, but research on its determinants is limited to southern regions. This study examines factors influencing MBD protective behaviour in the metropolitan French population.

Methods: 2,087 subjects responded to a self-administered online questionnaire in November 2023. The analysis plan was pre-registered. We fitted two mixed effects models to estimate the frequency and count of protective behaviours across sociodemographic groups and to identify which factors predict protective behaviour.

Results: Frequency of protective behaviour is significantly positively associated with getting bitten by mosquitoes often ($\beta = 3.39$; 95% CI: 3.10, 3.69) and sometimes ($\beta = 1.54$; 95% CI: 1.31, 1.76) compared to almost never, perceived MBD threat ($\beta = 0.11$; 95% CI: 0.06, 0.15), and having financial difficulties ($\beta = 0.23$; 95% CI: 0.02, 0.43). Count of protective behaviours is associated with getting bitten by mosquitoes often ($\beta = 0.39$; 95% CI: 0.30, 0.49) and sometimes ($\beta = 0.14$; 95% CI: 0.05, 0.23), perceived MBD threat ($\beta = 0.02$; 95% CI: 0.00, 0.03), MBD knowledge ($\beta = 0.06$; 95% CI: 0.04, 0.08), and having a chronic disease ($\beta = 0.08$; 95% CI: 0.02, 0.14). Models were adjusted for place of residence, education, and age. No associations were found between sex, having experienced an MBD, or confidence in public authorities to manage health crises.

Conclusions: This study provides the first insights into MBD protective behaviour and its associated factors considering all metropolitan French regions. Our results highlight several factors which may inform MBD prevention communication and policies focused on increasing individual protective behaviour.

Key messages:

- People often bitten by mosquitoes are more likely to engage in more frequent and a higher number of mosquito-borne disease protective behaviour than people almost never bitten by mosquitoes.
- Higher perceived mosquito-borne diseases threat is associated with more frequent and a higher number of mosquito-borne disease protective behaviour.

Abstract citation ID: ckae144.1927
Hand hygiene intervention in the prevention of healthcare associated infections

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Background: Healthcare associated infections are a major cause of morbidity and mortality in intensive care units. Observance hand hygiene is singled out as a key element in interruption of these infections. The present study aimed to assess whether hand hygiene intervention program in intensive care unit at the Sahloul University Hospital of Sousse is able to decrease healthcare associated infections.

Methods: We carried out a pre-experimental study among patients hospitalized in seven intensive care units at the Sahloul University Hospital of Sousse during two distinct periods of 3 months, the first in 2019 and the second in 2021. During these two periods, we monitored only patients hospitalized in the ICU for more than 48 hours and incidence of healthcare associated infections was compared. Healthcare associted infections were defined as infections occurred at least 48 hours after admission to the intensive care units. The hand hygiene promotion intervention, done during the year 2020, was based on 3 axes (training sessions, procedures writing and professional practicesevaluation).

Results: Incidence of healthcare associated infections decreased significantly in post-intervention ($p = 0.000$). The decrease of Ventilator-associated pneumonia was significantly higher than other types of infections($p = 0.042$). Extended Spectrum B-Lactamase Producing Enterobacteriaceae infections and Ceftazidim resistant Pseudomonas Aeruginosa infections decreased significantly in after intervention ($p = 0.000$).

Conclusions: The results of our study showed that improved hand hygiene resulted in a reduction in healthcare associated infections.

Key messages:

- Observance hand hygiene is singled out as a key element in interruption of healthcare associated infections.
- Improved hand hygiene resulted in a reduction in healthcare associated infections.

Abstract citation ID: ckae144.1928
Determinants of crimean-congo hemorrhagic fever (cchf) outbreaks: a retrospective analysis

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Introduction: Crimean-Congo Hemorrhagic Fever (CCHF), a viral tick-borne zoonotic disease with high mortality rates, poses a particular threat in Pakistan during religious event of Eid-ul-Azha as increased livestock contact. This study aims to analyze CCHF cases from three outbreaks, to identify transmission and disease patterns. Understanding these patterns can inform targeted interventions for future outbreaks.

Methods: A retrospective cross-sectional study was conducted to examine three CCHF outbreak investigations between July 2nd and August 12th, 2023 in Khyber Pakhtunkhwa, Pakistan. Multisectoral teams, including human and animal health departments, investigated these outbreaks. Data was collected through semi-structured case investigation tools. The healthcare providers, patients and family were subjects. During active case surveillance, 41 probable contacts were traced.

Results: Among positive cases, male predominance (71.4%) was observed. The highest proportion of cases occurred in the 15-29 year age group (42.9%, $n = 6$). Individuals involved in animal handling professions had the highest prevalence (50%, $n = 7$), followed by students (21.4%, $n = 3$). Common clinical manifestations included high-grade fever (100%), muscle pain (92.9%), and bleeding symptoms (85.7%), with 64.3% of cases reporting vomiting blood. The average recovery time was 7.1 days, while fatal cases had an average of 6.8 days from symptom onset to death. Recovery was observed in 64.3% of cases, with a mortality rate of 35.7%. Chi-square analysis showed significant associations between gender, occupation, and disease outcome ($p < 0.05$).

Conclusions: This study identified a higher risk of CCHF in males, young adults, and individuals involved in animal handling during outbreaks. Public health interventions targeting occupations, demographics, particularly education and protective measures for animal handlers during Eid-ul-Azha days, are crucial to mitigate future outbreaks

Key messages:

- Young male adults, and individuals involved in animal handling are on greater risk of higher risk of CCHF infections in Khyber Pakhtunkhwa, Pakistan.
- One Health community can leverage these findings to develop better prevention and control strategies through collaboration between human and animal health sectors.

Abstract citation ID: ckae144.1929
Enhancing cross-border contact tracing in Europe: Lessons learned from COVID-19 and future directions

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Introduction: Health systems in the EU operate at the national level, granting Member States autonomy for outbreak preparedness and response within their territories whilst coordinating at EU level to combat serious cross-border threats. The EU's Early Warning and Response System (EWRS) provides the platform to exchange personal data for contact tracing across 30/EEA countries and was extensively utilized during COVID-19. This study examines insights from EU/EEA countries and assesses the feasibility of integrating national digital systems with EWRS to increase its effectiveness.

Methods: A comparative case study surveyed representatives from 24 countries and interviewed nine, analyzing contact tracing processes, actors, digital technologies, and challenges/facilitators during COVID-19. Thematic analysis was complemented by two webinars engaging EU/EEA countries to validate findings and gather additional perspectives.

Results: EWRS was valued for safety and efficiency but faced challenges during peak pandemic periods due to the heavy manual workload. Integrating national digital systems with EWRS could enhance data quality, timeliness, and coordination between countries. However, countries have varied and incompatible digital contact tracing systems, limiting the feasibility of their integration with EWRS. Moreover, most countries organize contact tracing at the subnational level, with regional entities developing and managing their own digital technologies under national guidance. Smaller countries excluded, subnational contact tracing case management systems were often not integrated with each other to exchange personal data in an automated way at a national level.

Conclusions: While integrating national digital systems with EWRS could bolster efficiency of contact tracing across EU/EEA, the presence of diverse technologies and decentralized governance poses feasibility challenges. Other improvements are needed to enhance cross-border contact tracing during outbreaks.

Key messages:

- Integrating national digital systems with EWRS promises enhanced efficiency for contact tracing across EU/EEA in line with Regulation (EU) 2022/2371 on serious cross-border threats to health.
- Diverse technologies and decentralized governance pose feasibility challenges, underscoring the need for further enhancements in cross-border contact tracing in EU/EEA during large outbreaks.

Abstract citation ID: ckae144.1930
Social determinants and drivers of use of SARS-CoV-2 self-tests in a French national cohort study

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Background: Self-tests for SARS-CoV-2 became quickly available after the onset of the epidemic. They were especially recommended for high-risk and hard-to-reach populations. This study examines whether self-tests successfully reached vulnerable groups during first months of availability in France.

Methods: The EpiCov study is a national population-based cohort study conducted in France during the Covid-19 pandemic. Primary outcome variable was use of self-test at last SARS-CoV-2 test, among those who reported testing at least once between May-July 2021. Univariate and multivariate binomial weighted logistic regressions were run, stratified by age group (16-24 yrs, 25-59, 60+), to identify social determinants and drivers of use of self-tests.

Results: Overall, 11% of the population who tested for SARS-CoV-2 between May-July 2021 reported using a self-test as last test. Demographic factors were highly predictive of use of self-tests among 25-59 y/o, but not among younger and older age groups. Use of self-tests was highest among 16-24 y/o, people with higher education, lowest population density areas, and people with high overall frequency of testing. Use was lowest among 60+ y/o, unemployed and retired people, and first-generation immigrants. When stratifying by age, 16-24 y/o with high perceived Covid-19 risk were more likely to use self-tests (aOR 1.99, 95% CI 1.10-3.59). Among 25-59 y/o, in-person workers were more likely to use self-tests than remote workers (aOR 1.91 [1.20-3.05]). Among 60+ y/o, employed people were more likely than retired people (aOR 3.97 [2.30-6.85]).

Conclusions: With higher utilization in low population density areas and among frequent testers, convenience may be a primary driver of use of self-tests. Additional drivers include perceived risk among younger people and exposure at work for those $\geq$25 yrs. Inequities in use were observed, with lower use among people with low education, older age, and immigrants.

Key messages:

- Use of self-tests in France during the Covid-19 pandemic was low among vulnerable population groups, including people with lower education, immigrants, and older individuals.
- Drivers of use included geographical access to healthcare services, perception of risk among younger respondents, and exposure at work among adults aged $\geq$25 years.

Abstract citation ID: ckae144.1931
Factors influencing washing hands during the COVID-19 pandemic in the Ukraine population

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Background: Washing hands is recommended as one of the key preventive measures for reducing the transmission of COVID-19 and other infectious agents. The World Health Organization (WHO) consistently emphasized that handwashing is one of the most effective methods to prevent COVID-19. However, research on Ukraine handwashing has been limited. This study aims to investigate factors influencing the practice of regular handwashing in Ukraine during the COVID-19 pandemic.

Methods: This study analyzed 800 households from the 2020 Ukraine Multi-Sector Needs Assessment (MSNA) survey data. The survey, conducted from January to February 2020, was administered by the REACH Initiative. The data was analyzed using Stata/MP version 16.1.

Results: As the number of household members increases, especially when the head of the household is female, the likelihood in adoption of washing hands more regularly increases significantly. People who take between 30 to 59 minutes to arrive at healthcare facility by walking, compared to those who take less than 15 minutes showed significantly decreased likelihood in washing hands more regularly.

Conclusions: While social distancing measures and travel restrictions have reduced contact possibilities with friends and colleagues, families represent the smallest social unit, making complete isolation within them difficult. Hence, the number of household members increases, there may be a higher tendency to wash hands more frequently due to the virus. Given that women exhibit higher levels of concern and fear regarding the pandemic, it is interpreted that they are more likely to wash their hands more frequently. Also households living more than 5km from the nearest health facility face higher barriers in accessing health care. They are more likely to wash their hands less due to low access to medical information.

Key messages:

- The number of household members, the gender of the head of the household, and access to health facilities can affect COVID-19 prevention behaviors, such as hand washing.
- Hand washing can prevent infectious diseases as well as various germs, so it is required to implement policies that can make them a habit.

Abstract citation ID: ckae144.1932
Uncovering Prognostic Clinical Phenotypes in Children and Adolescents with SARS-CoV-2 Infection

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Background: Characterizing clinical phenotypes is important for classifying patients, predicting disease outcomes, and adapting treatment. We aimed to identify distinct clinical phenotypes among hospitalized children and adolescents with SARS-CoV-2 infection and to evaluate variations in prognosis across these phenotypes.

Methods: The DGPI (German Society of Pediatric Infectious Diseases) registry serves as a nationwide, prospective registry for children and adolescents hospitalized with a SARS-CoV-2 infection in Germany. We applied hierarchical clustering and integrated variables such as sex, SARS-CoV-2-related symptoms, pre-existing comorbidities, clinically relevant coinfection, and SARS-CoV-2 risk factors to describe distinct clinical phenotypes. Subsequently, we applied a multinomial logistic regression model to examine the association between these phenotypes and discharge status.

Results: The DGPI registry encompassed 6983 patients and facilitated the identification of six distinct phenotypes for children and adolescents with SARS-CoV-2. Phenotype A had a similar symptom pattern as the total sample. Predominant symptoms of patients with other phenotypes were gastrointestinal (95.9%, B), asymptomatic (95.9%, C), lower respiratory tract (49.8%, D), lower respiratory tract and ear, nose and throat (86.2% and 41.7%, E), and neurological (99.2%, F). Patients with phenotype C had lower odds of residual symptoms (OR: 0.10 [0.06, 0.15]) than those with phenotype A, whereas patients with phenotype D and E had higher odds of residual symptoms (OR: 1.33 [1.11, 1.59] and 1.91 [1.65, 2.21], respectively) than those with phenotype A. Patients with phenotype D were significantly more likely (OR: 4.00 [1.95, 8.19]) to have an unfavorable outcome, compared to patients with phenotype A.

Conclusions: We could show that the identified phenotypes could facilitate early risk assessment and aid in tailoring individualized patient management strategies.

Key messages:

- Six distinct clinical phenotypes existed in children and adolescents with SARS-CoV-2 infection.
- Phenotypes could assist in risk evaluation and help personalize patient care.

Abstract citation ID: ckae144.1933

Preventive interventions on vector-borne diseases related to climate change: an Umbrella review

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Background: Vector-borne diseases (VBDs) are a global challenge to public health, being influenced by ecological factors and climate change. Despite the several preventive public health interventions that can be implemented, the evidence of their impact is still fragmented. An organic overview of the current evidence can provide relevant information on the effectiveness of these actions.

Methods: We conducted an umbrella review following the PRIOR checklist. Relevant reviews were searched using PubMed and Cochrane databases. We considered eligible all systematic reviews published in English between 2013 and 2023, containing meta-analysis on public health interventions aimed at reducing incidence, prevalence, or the burden of disease of VBDs, without demographic restrictions.

Results: We screened 1971 records. 51 reviews were included. 38 reported outcomes targeting Malaria, 9 Dengue, 2 Yellow Fever, 1 Leishmaniasis,1 Zika, 1 Chikungunya, 1 Crimean-Congo haemorrhagic fever, 1 Lyme disease and 1 Schistosomiasis. Several interventions were assessed worldwide. 18 reviews considered chemoprophylaxis, 9 net/curtains, 8 vaccines, 6 repellents, 3 housing interventions, 2 community participation, 2 MTaT and 2 oral supplementations. Authors stated conclusions are favourable to the interventions assessed for the 73%, but the certainty level is mostly considered low.

Conclusions: Public health preventive interventions are fundamental in responding to the threat of VBDs, but their impact may vary depending on several factors. Further research must provide more effective interventions and strategies, with a cohesive presentation of their evidence.

Key messages:

- Effective reduction of VBDs burden requires a combination of interventions that must be tailored to local ecological, social, and epidemiological factors.
- Evidence presented in this umbrella review can inform evidence-based policies and programs aimed at combating VBDs at local, national, and global levels.

Abstract citation ID: ckae144.1934

Risk perception survey for healthcare-associated infections in a large teaching hospital in Rome

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Background: Healthcare-associated infections (HAIs) are the main complications of hospitalization. The goal of the study was to enhance awareness, improve risk perception, and facilitate measures to reduce the outcomes of HAIs. A bottom-up approach, in which the healthcare workers involved play a key role, can be adopted to decrease the spread of HAIs. Therefore, a survey was conducted in a large teaching hospital in Rome from 2019 to 2023, excluding 2020 due to COVID-19.

Methods: A longitudinal study was conducted in all integrated care departments with beds. The data was collected using a standardized, anonymous, self-administered questionnaire for healthcare workers. The questionnaire consisted of 61 items assessing socio-professional features, knowledge of HAIs, attitudes and barriers to hygiene compliance, self-analysis of professional behavior and advice for new interventions. The study lasted 21 days between November and December, which is considered a period of normal care activity. A multivariable logistic regression model was built. Statistical analyses were performed with STATA 18.0.

Results: There were 384 health workers respondents: female (67.7%) and nurses (56.5%). The most represented areas were internal medicine (37.9%) and surgery (27.3%). The correct frequency of perception of HAIs increased from 33.3% in 2019 to 36.3% in 2023. From 2022 to 2023, the multivariable model showed that physicians (OR 0.48, CI 95% 0.24-0.93, p-value 0.03) and elder staff (OR 1.02, CI 95%, 1.0-1.1, p-value 0.04) seemed to be more aware of the prevalence of HAIs in their ward.

Conclusions: Targeted training days were organized after the study to discuss the data collected. Staff awareness of the prevalence of HAIs in their ward is improving, even if it is complicated to quantify it by attending HAIs training events. The survey has been included as a corporate goal for 2024 as a useful tool to improve awareness of HAIs and to evaluate the effectiveness of ongoing training.

Key messages:

- A bottom-up approach, in which healthcare workers assume a pivotal role, can be employed to reduce the spread of HAIs as it serves as a valuable tool to evaluate the efficacy of targeted training.
- The results indicate that the education of healthcare workers is a crucial factor in enhancing awareness of HAIs. Therefore, there is a need to improve the education of younger and non-medical staff.

Abstract citation ID: ckae144.1935
Enhancing port preparedness in Germany in the event of infectious diseases – a best practice study

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Background: The maritime sector is exposed to specific risks in the area of communicable diseases. In Germany, five ports are designated to enforce the International Health Regulations (IHR) and must have certain core capacities to respond immediately to cross-border health threats. A joint external evaluation conducted by the World Health Organization (WHO) revealed a need to reinforce central structures in Germany. The overarching objective of the study is to harmonize and consolidate the requisite capacities for maritime health security.

Methods: Qualitative interviews ($n = 35$) at baseline were conducted with various stakeholders, including port medical services, port authorities and other stakeholders. The parameters to be analysed included specific activities and interfaces during infectious incidents, experience with past infection incidents, training and exercise, and the need for action. Furthermore, a document analysis was conducted, during which the existing contingency plans and standard operating procedures were reviewed.

Results: In essence, the initial challenges posed by the COVID-19 pandemic have led to the establishment of well-defined procedures and interfaces between the various stakeholders involved. There is a necessity for enhanced interpersonal communication between the various stakeholders and the implementation of sustainable training practices. Furthermore, greater transparency and standardisation of regulations in international health emergencies is desired.

Conclusions: Given the infrequency of cross-border infection incidents on board ships, targeted preparation within stakeholders is often given a lower priority than other work priorities. The participatory study design is intended to develop comprehensive concepts in collaboration with the IHR ports in the ongoing project. Subsequently, these concepts will be tested in tabletop exercises and incorporated into training formats for public health actors.

Key messages:

- The qualitative interview study at baseline revealed a substantial need for sustained communication and training practices among stakeholders for infectious disease preparedness in German IHR ports.
- The document analysis revealed relevant differences in the extent and scope of contingency plans of German ports designated under the International Health Regulations.

Abstract citation ID: ckae144.1936
Tackling Pertussis in Schools: A Public Health Unit's Approach

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Issue: Pertussis is a highly infectious bacterial respiratory disease, easily transmitted in closed settings, such as schools. In Portugal, 2019 was the last year with a significant number of cases (83). As pertussis usually follows epidemic cycles from 3 to 5 years, another wave is expected in 2024. Children aged 1-5 years are particularly vulnerable as they no longer benefit from maternal vaccination and have not yet received the 5-year boost recommended in the national schedule.

Description of the problem: In April 2024, the Cascais Public Health Unit (PHU) addressed two possible pertussis cases in preschools. A streamlined response protocol was drafted, including an online contact tracing form and task distribution among response team members, along with templates and a scripted guide for standardized communication.

Results: We were provided a list of close contacts for the children and staff and shared an online form. In the first case, 34 in 35 identified contacts responded to the form, while in the second case, 38 in 55. When comparing both scenarios, the average scripted call duration decreased from 10 to 6 minutes. The PHU response to the first index case took 6 hours, involving 4 physicians and 5 nurses, whereas to the second took 4 hours, involving 3 physicians and 3 nurses. However, implementation requires at least one team member with basic information technology skills to set up the system.

Lessons: Clear communication channels between schools and public health authorities are vital for effective outbreak management. Streamlining communication processes with online forms and scripted conversation guides improved efficiency. Centralised data collection reduced response time and resource requirements in each outbreak.

Key messages:

- Established communication channel, standardized data collection, and streamlined protocol allow more effective outbreak management.
- Centralized data collection via digital tools is particularly useful in limited human resources settings.

Abstract citation ID: ckae144.1937
STI/HIV care in times of COVID-19 according to Dutch healthcare professionals: A mixed methods study

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Background: Surveillance data from the Netherlands show that STI/HIV testing decreased at the start of the COVID-19 pandemic, suggesting barriers in access to STI/HIV care. However, the impact of the pandemic on STI/HIV care may be more complex, and key populations could be differentially affected. The aim of this study was to gain more insight into the impact of COVID-19 on STI/HIV care in the Netherlands from the perspective of STI/HIV care providers.

Methods: We investigated whether professionals in STI/HIV care experienced changes compared to pre-COVID in access to care, demand and provision of care, shifts online care, and quality of care. An online survey was completed by 192 STI/HIV care professionals. Additionally, semi-structured interviews were held with 23 STI/HIV care professionals.

Results: According to participants, specific subgroups of priority populations may have had difficulties accessing STI/HIV care during the pandemic especially during lockdowns and at public sexual health services. Professionals were concerned to have lost sight of subpopulations in vulnerable circumstances and that the pandemic may have magnified inequalities in access to STI/HIV care, which may be related to different levels of health and digital literacy required for telephone and video consultations. Furthermore, participants found online care provision was not up to standards and were concerned about follow-up care for patients using private online providers of remote tests.

Conclusions: Professionals experienced that COVID-19 measures may have compounded existing disparities. To minimize inequalities in access to STI/HIV care during a pandemic, it is recommended to prioritize services for people in vulnerable circumstances such as recent migrants and people with low health or digital literacy. More collaboration between and within sectors may help in better organizing healthcare and prevent overburdening of specific sectors.

Key messages:

- According to STI/HIV care providers, the COVID-19 pandemic differentially impacted different STI/HIV care sectors, but also increased existing inequalities in access to care for vulnerable groups.
- Professionals experienced that COVID-19 measures impacted the provision of STI/HIV care, access to care for vulnerable populations, and quality of care.

Abstract citation ID: ckae144.1938
Emergency Department admissions for Acute Respiratory Infections: a retrospective analysis

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Background: Acute Respiratory Infections (ARIs) have a relevant impact on public health in terms of prevalence and costs associated with the diseases. The COVID-19 pandemic highlighted the need to adopt accurate surveillance systems to respond to new emergencies and meet the demand for access to care. The aim of our work is to describe the accesses at the Emergency Departement (ED) of the Pisa University Hospital (AOUP), Italy, for ARIs, from 2017 to 2021.

Methods: A retrospective analysis of electronic medical records from the AOUP was conducted from January 2017 to December 2021. The analysis focused on ED admissions and positive lab test results, examining their correlation with ED visits caused by ARI. Multiple linear regression models were used to understand the influence of viral laboratory results on ARI-related ED admissions, adjusting the results for age. The study also assessed the contribution of each virus incausing ARI within different age groups.

Results: 33,101 (annual average 5,520) ARI admissions in ED were registered, resulting in 7,426 hospital admissions (22.8%, annual average 1,163) with a seasonal pattern between week 42 of each year and week 17 of the following year. The reduction in emergency room admissions in 2020 (weekly average of 78.2, compared to 144.3 in 2017-2019) may be due to the restrictions implemented for the COVID-19 pandemic. Nevertheless, the average weekly rate of ED admissions caused by ARI was 30.8% in 2020, as compared with 21.7% in 2017-2019. Analysis by age group showed a peak of accesses in the last weeks of 2021 for the <1 and 1-4 years old age groups.

Conclusions: Data on ARI-related admissions provide valuable insights into the dynamic patterns of seasonal air-borne infections and age-related vulnerabilities. This could be useful in directing health policies to identify indicators of future epidemic waves, contributing to the ongoing efforts to enhance preparedness and response strategies for respiratory infections.

Key messages:

- It is important to create an integrated surveillance system to monitor and respond to ARIs.
- Strategies should prioritise vaccination campaigns, particularly for RSV and influenza.

Abstract citation ID: ckae144.1939
Whooping cough – a recurrent epidemic

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Background: Whooping cough (WC), or Pertussis, is a vaccine-preventable and highly contagious infectious disease. Although it has a relatively low fatality rate, approximately 13% of reported cases develop secondary bacterial pneumonia. This was because of several recurrent epidemics across Europe in the last decades, with the latest beginning in mid-2023 and still ongoing. The Central Region of Portugal is currently being affected, and this study aims to describe the current epidemic at the regional level.

Methods: Data from epidemiological inquiries of confirmed and probable cases of WC pertaining to the Central Region of Portugal from January 2020 till April 2024 was gathered from the mandatory report national epidemiological surveillance system (SINAVE). Both a temporal comparison of number of cases and a statistical space-time scan with permutation were conducted (software SaTScan v10.)

Results: A comparison by month of reported cases shows an increase in cases from September 2023 until December 2023 followed by an exponential increase from January 2024 until April 2024 denoting an ongoing epidemic. In the statistical space-time analysis of 107 reported cases between September 2023 and April 2024, 8 nonsignificant clusters were identified with different locations involved in non-overlapping periods.

Conclusions: The finding of several unrelated clusters, even though nonsignificant, during a short time period indicates that Pertussis transmission is ongoing at the local level probably through asymptomatic or barely symptomatic cases that act as reservoirs. Clinicians must hold a high clinical suspicion for a timely diagnosis, treatment and report and health authorities must reinforce control measures to limit the spread of this disease.

Key messages:

- Pertussis remains a disease of significant concern recurrent outbreaks across Europe show that public health local authorities have an important role in timely management of cases and outbreaks.
- Local level transmission and intervention may play a pivotal role in the epidemiologic dynamic of Pertussis.

Abstract citation ID: ckae144.1940
Understanding Hand Hygiene Knowledge Gaps: Insights from Primary Healthcare in Portugal

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Background: Healthcare-associated infections cause a significant burden of disease globally. Hand hygiene is crucial for preventing these infections but despite recommendations, compliance with hand hygiene protocols among healthcare professionals is often inadequate. In Portugal, there have been several initiatives aiming to increase awareness on the importance of hand hygiene practices amongst healthcare professionals including in primary healthcare facilities. Nationally, there are two models of organization of primary healthcare facilities with differences in funding and allocation of resources.

Methods: In this study, the World Health Organization's Hand Hygiene Knowledge Assessment Questionnaire for Healthcare

Professionals was translated into Portuguese and validated with infection control specialists. It was then distributed to primary healthcare professionals in the Northern Lisbon area, in March 2024 to assess knowledge on hand hygiene practices and highlight potential training needs. The responses were analyzed, with the Kruskal-Wallis test carried out, followed by the Mann-Whitney U test when required.

Results: A response rate of 21,5% (65/302) was obtained, with most participants being nurses (58%), followed by physicians (34%). There was a statistically significant difference depending on the model of organization of the primary healthcare unit to which the participant belonged ($\chi 2 = 8.428$, $p = 0.014$, $df = 2$)., There was no significant difference between the score and the professional category of the participant ($\chi 2 = 5.76$, $p = 0.12$, $df = 3$).

Conclusions: The findings of this study show that the model of organization of a primary healthcare unit can impact the knowledge of professionals and not just practices. This study also underscores the significance of comprehensive assessments of the context before interventions and the need for further studies to understand how we can better inform future training initiatives.

Key messages:

- Organizational differences in primary healthcare units impact hand hygiene knowledge among professionals, emphasizing the need for tailored training initiatives.
- Comprehensive assessments of healthcare contexts, coupled with validated linguistic tools, are crucial for reliable intervention strategies in infection control.

Abstract citation ID: ckae144.1941
Experiences of treating people with persisting symptoms after COVID-19: a focus group study

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Background: A proportion of people who had COVID-19 infection continue to suffer with persistent symptoms. The long-term effects of COVID-19 are recognised as heterogeneous and complex, challenging health services. This study aims to explore the experiences of healthcare professionals dealing with patients suffering from persisting symptoms following COVID-19 infection and their views on the healthcare services response.

Methods: We held 4 focus groups ($n = 19$) with healthcare professionals by video-call. Healthcare professionals were recruited using a snowball strategy, taking level of care, healthcare area, and nature of function as diversification criteria. Participants were invited to tell their experiences regarding the following topics: experiences and challenges in providing care to patients with persisting symptoms following COVID-19 infection; usual care pathways; models of care. Data were recorded, transcribed, and anonymized. The qualitative data were submitted to thematic analysis following an inductive approach. A computer-assisted qualitative data analysis software (MaxQDA) was used.

Results: Based on thematic analysis, 4 core themes emerged: uncertainty; new condition, usual challenges; variable standards implementation; personalized and multilevel care. This new condition challenged health services and health professionals to keep adjusting and updating responses in a context of uncertainty, but at the same time revealed the usual challenges and needs for providing timely and integrated care. Health services burden challenges the implementation of care standards. This heterogeneous condition demands a multi-level response, including general information and advice, enabling self-management, and providing rehabilitation.

Conclusions: Healthcare professionals envision an heterogenous condition, bringing uncertainty to healthcare services. More research, training, and information to the population is required for an appropriate response.

Key messages:

- Persisting symptoms following COVID-19 challenged an already overwhelmed health system, bringing barriers to healthcare standards implementation.
- The heterogeneous nature of the condition and the healthcare services burden may leave some people to chance, demanding a diverse set of care.

Abstract citation ID: ckae144.1942
Investigation of a Norovirus GII outbreak in a primary school in Portugal,2023

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Background: The onset of acute gastroenteritis cases among students in a primary school class on September 19, 2023, prompted an immediate response from the local Public Health unit. A collaborative effort was initiated to investigate and contain the outbreak.

Methods: Epidemiological questionnaires were distributed to 166 students and 8 staff members, defining cases as individuals exhibiting symptoms including diarrhoea, vomiting, or nausea between September 19th and September 24th, 2023. Additionally, stool samples were collected from three individuals.

Results: Out of 166 students and 8 staff members, 39 individuals met the case definition, resulting in attack rates of 22% (37/166) and 25% (2/8) among students and staff, respectively. Laboratory analysis confirmed two cases of Norovirus GII among the tested specimens, with five students requiring medical attention.

Conclusions: Our investigation underscores the significance of continuous epidemiological surveillance and swift implementation of infection control measures in school settings. The detection of Norovirus transmission emphasizes the necessity for rigorous adherence to infection control best practices. Our findings advocate for sustained technical support from public health authorities to prevent and manage similar outbreaks effectively.

Key messages:

- Study on Norovirus outbreak in a primary school highlights the imperative of infection control measures, emphasizing the importance of ongoing support from public health authorities.
- The Norovirus outbreak investigation underscores the vital role of surveillance and swift response in containing infectious diseases within educational settings safeguarding all.

DQ. Poster display: Injury prevention / Public health genomics

Abstract citation ID: ckae144.1943
Monitoring violence in healthcare. A lesson from the pandemic

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Introduction: Violence against healthcare workers is a serious, underreported, and underestimated problem. Only a few healthcare companies have efficient violence monitoring systems and risk assessment is often entrusted to non-validated algorithms. The monitoring system implemented in 2005 in a public health company allowed for an accurate analysis of the phenomenon.

Methods: For the entire observation period (2005-2023), the one-year prevalence of violent incidents (physical assaults, threats, and harassment) has been reported by all during the periodic medical examination in the workplace. Furthermore, after each periodical inspection of workplaces, the occupational doctor requested a detailed description of violent events that occurred in the department, using the Violent Incident Form distributed online anonymously.

Results: In 2005/6 the one-year prevalence of physical assaults was 8.2%. Prevention efforts led to a moderate reduction in the rate (7.8% in 2011/12). A collapse in rates was observed in 2021 (3.2%). In 2022, physical violence rose again to 5.6%. Harassment affected 19.6% of workers in 2005/6, falling to 7.2% in 2021 and rising again to 21.6% in 2022. Physical violence perpetrated by patients was more frequent in psychiatric services (OR 25.7, CI95% 11.1; 59.6) and violence perpetrated by visitors in emergency and urgence services (OR 8.8, CI95% 3.8; 20.5) than in general services. Workers attributed the drop in attacks primarily to the filtering of access to work areas, which limited the presence of visitors and relatives. The lower demand for services had also resulted in an optimal ratio between staff and patients, improving the quality of care. Furthermore, in the very first pandemic phase, health workers enjoyed a very favorable consideration from the population, which had further reduced the causes of conflict.

Conclusions: The pandemic has shown that better relationships between patients/visitors and staff are effective in reducing violence.

Key messages:

- Monitoring of violence against healthcare workers shows that it has decreased during the pandemic.
- HCWs believe that (i) limiting visitor access (ii) better balancing demand for services and (iii) better opinion towards HCWs were the causes of the reduced rate of violence.

Abstract citation ID: ckae144.1944
Unplanned emergency department attendances due to home and leisure accidents in the elderly Portugal

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Home and Leisure Accidents (HLA) have been identified as a relevant public health issue with individual, societal and economic consequences. So, common cause of injury-related morbidity and mortality, especially among older people. Evidence shows that most of HLA among the older ones are associated with identifiable and modifiable risk factors. However, more detailed information about the context and characteristics of such events is needed. This study aimed to characterize the occurrence of HLA in victims aged 65 and over related to hospital Emergency Department (ED) of the National Health Service in Portugal based on hospital records, through EVITA system. A descriptive analysis of the data was performed. Bivariate comparisons were performed using Pearson's chi-square test with a significance level of 5%. In this analysis, the statistical program SPSS V.27 was used. During the 2022 year the older people aged 65 and over represented 25% of the total of attendances in the emergency department. In the 2022 year there were 70 452 HLA in people victims aged 65+, constituting 32% of hospital ED attendances by HLA (preliminary data). The results show that 65,9% of the attendances were amongst the age group of 75 years and beyond. More frequently reported in females (64,3%) than in males (35,6%), being these differences statistically significant ($p < 0{,}01$). The summer season for both age groups had higher proportion of HLA. In both age groups 65-74 years and 75 years and over most of HLA occurred at home (65,2%; 68,8%), followed by outdoor spaces (12,2%; 6,7%), public area (3,4%; 13,6%) and transport area (9,2%; 5,5%), these differences were statistically significant ($p < 0{,}01$). Regarding to the products/agents most involved in the HLA the "floor" was the leading category in age group 65-74 years (27,1%) and in the oldest 75 years and over (43,0%). Considering that globally HLA can be prevented, this information reinforces the importance of this problem and its magnitude.

Key messages:

- The older people represented 25% of the total of attendances in the emergency department in the year in analysis. 13% of ED attendances occurred due to HLA.
- The National Injury Surveillance System provides information that allows to know the characteristics and circumstances of HLA that occur in older people.

Abstract citation ID: ckae144.1945
Preventing unintentional injuries in children: the parents' beliefs matters (CHILD Vigilance)

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The CHILD Vigilance project is a European study supported by the Injury Prevention & Safety Promotion Section of the European Public Health Association (EUPHA INJ) and aims at assessing parenting knowledge and attitudes that are relevant to supervision and risk taking in children. For children the majority of these injuries occur in or around the home when their safety is the responsibility of a parent or other caregiver. The study aims contribute to the epidemiological knowledge of injuries through the study of the perceptions of parents and caregivers of children and adolescents. A descriptive, observational, cross-sectional study was developed under the CHILD Vigilance project, developed at European level within the scope of the Injury Prevention & Safety Promotion Section of the European Public Health Association. The information was collected by survey, from parents' associations and schools in the EU countries represented in the EUPHA INJ Section. A total of 916 valid responses were obtained, involving 1229 children (51,4% male; mean age 7,8 years). Falls were perceived as the most common type of unintentional injuries in pre-schoolers and school-age children (47,8% in Greece; 63,5% in Portugal; 74,8% in Lithuania). However it was found differences in these countries as to the most common type of injury in adolescents, pointing out road traffic crashes (41.2% in Greece vs 39.5% in Portugal) and poisonings in Lithuania (38,1%). Some differences were also observed between these countries as to the most common causes of death. In Greece and Lithuania diseases were reported the main cause in the pre-schoolers (62,5%; 35,1%) and in primary education (55,1%; 29,7%), being injuries pointed as the most frequent cause only in the oldest. The study emphasizes the need to invest in the identification of appropriate determinants of child unintentional injuries and harmonised injury outcomes across global initiatives.

Key messages:

- The lack of data regarding to parents' knowledge on injury prevention involving children highlight the need to conduct this type of studies.
- The need for adequate epidemiological data on the burden of child injuries and validated tools to accurately measure injuries.

Abstract citation ID: ckae144.1946
Sleep difficulties as a universal risk factor for injury among adolescents in 46 countries

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Background: Poor sleep is common among adolescents and associated with unintentional injuries. The current evidence base is limited by differences in measures of sleep and injury implemented across studies. We examined the potential universality of the relationship between poor sleep and injury cross-nationally using self-reports from 229,589 adolescents in 46 countries that were collected using common procedures and measures.

Methods: A cross-sectional study was conducted using records from the 2017/18 Health Behaviour in School-aged Children (HBSC): World Health Organization cross-national study. The prevalence of sleep indicators (difficulties in falling asleep, insufficient sleep, social jet lag) and medically treated injuries (overall, multiple) were described across countries and by gender. Multivariable modified Poisson regression analyses were conducted within and across countries to test the consistency of the association between poor adolescent sleep and injuries.

Results: Overall, indicators of poor sleep were reported by nearly half of adolescents, and varied by gender and across countries. Country-level analyses found consistently positive associations between indicators of poor sleep and injuries. Pooled (multi-country) analyses further demonstrated a universality of these relationships across sleep indicators and injury outcomes. The strength of relationships varied by gender, with more robust associations detected among girls compared to boys.

Conclusions: Poor sleep is a robust and mainly consistent risk factor for injury among adolescents across countries and regions. Public health officials and policymakers should therefore recognize adolescent sleep as a health priority. The promotion of sleep hygiene may represent a novel target for injury prevention at regional and national levels.

Key messages:

- Poor sleep, in the form of sleep difficulties, insufficient sleep, and social jet lag, were robust and mainly consistent injury risk factors among adolescents across 46 countries.
- Public health officials should recognize sleep hygiene as a novel focus for adolescent injury prevention.

Abstract citation ID: ckae144.1947
Mapping barriers and bottlenecks for personalized preventive approaches in health systems worldwide

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Over the past decades, the growing prevalence of chronic disease globally raised the public health need to plan tailored personalized preventive approaches, mainly through big data and -omic sciences. However, a conspicuous body of literature highlighted the existence of many barriers and bottlenecks hindering their actual implementation in real-word settings. From here, this scoping review of reviews aims to map all known barriers and bottlenecks to the implementation of personalized preventive approaches in European health systems and beyond. PubMed, Web of Science, Scopus and gray literature sources were consulted from 2017 to January 2023, identified barriers and bottlenecks were analyzed against the Consolidated Framework for Implementation Research (CFIR). Out of 11,602 records, 220 were deemed eligible for full-text screening, and a final sample of 34 review studies were extracted. Studies were mainly performed in USA 15 (44%) and UK 3 (9%), followed by Canada 2 (6%), India 2 (6%) and Italy 2 (6%). From our results, the lack of evidence on clinical utility, guidelines, specialized professionals, citizen trust and cultural issues are the most frequently reported barriers to the implementation of personalized preventive approaches worldwide. These in turn affect country specific policies and the applicability of such innovations across different populations, raising the risk of increasing health inequalities and discrimination concerns. Findings confirmed that most translational challenges pertain to primary and secondary prevention levels across several chronic diseases, with particular concerns for non-European ancestry individuals.

Key messages:

- The identification of bottlenecks are informative of future precision public health interventions.
- Barriers reported in most of the studies suggest the need to establish a targeted agenda.

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Economic evaluation of Polygenic Risk Scores in healthcare interventions: a systematic review

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Background: Polygenic Risk Scores (PRS) quantify genetic susceptibility to diseases, promising personalized healthcare. This review explores current evidence regarding the economic evaluation of strategies based on PRS or other polygenic risk stratification approaches, scrutinizing their methodologies.
Methods: The study protocol was registered in PROSPERO (CRD42023442780). A systematic search in PubMed, Scopus, and Web of Science identified full economic evaluations of intervention based on polygenic risk stratification strategies. The quality of the included articles was assessed using the Drummond checklist. This study was supported by the EC and MUR under PNRR - M4C2-I1.3 Project PE_00000019 'HEAL ITALIA".
Results: Nineteen articles were included in the analysis, with oncological conditions being the most frequently investigated (13), followed by cardiovascular conditions (3). In nearly 80% of the studies, PRS was employed for screening interventions, with the general population being the primary target in 14 out of the 19 studies. All the economic analysis models investigated cost-utility in terms of QALYs, with Markov models and microsimulations being the most common structures. The majority of these models were based on simulated cohorts derived mostly from North American or European data, with 9 adopting a healthcare system perspective and 6 a societal perspective. Although delivery strategies for PRS testing were rarely addressed, PRS costs were included in nearly all studies. Indirect costs were examined in fewer than half of the studies. In 12 out of 19 studies, the conclusions claimed the cost utility of PRS involving strategies.
Conclusions: Despite the technique's potential, evaluations of various strategies based on PRS approaches yield heterogeneous conclusions regarding cost-utility. Our study highlights the factors contributing to this heterogeneity and underscores the need for further exploration, ideally prioritizing real-world data.
Key messages:

- PRS strategies evaluations vary in cost-utility conclusions, highlighting the need for further investigation.
- Real-world data and practical implications should be prioritised in PRS research.

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Health impact of the Serious Accidents Punishment Act in Korean occupational settings

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Background: Interrupted time series analysis serves as a valuable study design for assessing the efficacy of public health interventions implemented at a specific moment in time at the population level. We aim to elucidate the effects of the Serious Accidents Punishment Act implemented in February 2021 in Korea by analyzing changes in the incidence rates of occupational diseases.
Methods: The monthly data from patients with occupational diseases was extracted from the National Health Insurance Service Cohort database from 2011 to 2023. An Interrupted time series analysis with Poisson segmented regression was used to compare the rates before and after the Serious Accidents Punishment Act introduction in both outpatients and inpatients. Adjustments or stratification variables included sex, age, company size, and injury-related international classification of diseases codes (Injury, poisoning, and certain other consequences of external causes, S00-T88).
Results: Based on injury rates, men's inpatient injury rates remained stable, but outpatient rates decreased after the act implementation, while women's injury rates consistently declined in both inpatient and outpatient settings. The Interrupted time series regression analysis indicates that the Serious Accidents Punishment Act led to a significant reduction in both outpatient and inpatient injury rates for men and women, with a marked decline in outpatient rates and hospital admissions among women post-intervention.
Conclusions: The Interrupted time series regression results suggest that the Serious Accidents Punishment Act has been effective in reducing injury-related healthcare usage, highlighting the necessity of gender-specific interventions and the potential impact on lowering inpatient visits, although causality remains uncertain without further analysis.
Key messages:

- The Serious Accidents Punishment Act significantly reduced occupational injury rates in Korea, especially among women, demonstrating effective public health intervention.
- Interrupted time series analysis reveals Serious Accidents Punishment Act's impact on reducing healthcare usage for occupational injuries, highlighting the need for gender-specific approaches.

Abstract citation ID: ckae144.1950
Evaluating Genetic Testing: A Systematic Review of Assessment Frameworks

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Introduction: The assessment of the risks and benefits of genetic/genomic tests has long been addressed using various frameworks. They are mostly ACCE-based, focus on technical aspects, but often overlook economic and organizational considerations. The few HTA-based approaches, though more comprehensive, lack validation and implementation. This review's purpose is to identify all evaluation frameworks for genetic/genomic tests and synthesize their key aspects.
Methods: PubMed, Scopus, Web of Science, and Google Scholar were searched. Inclusion criteria were documents describing evaluation frameworks for genetic/genomic tests, that were original, specifically created, and covering at least three assessment domains. This study was supported by the EC and MUR under PNRR - M4C2-I1.3 Project PE_00000019 'HEAL ITALIA'.
Results: Overall, 12546 unique records were screened, of which 67 documents were assessed for eligibility. A total of 29 studies were included, reporting 24 different frameworks. These frameworks were published between 2000 and 2019, mostly from USA (50%),

Canada (13%) and UK (13%). There was substantial interest in the economic facets of the technology (92%), albeit without extensive detail, and high attention was given to its technical accuracy (70-90%). The clinical value was also consistently mentioned (70-90%), similarly to legal, ethical, and social considerations (70-80%). However, there was minimal emphasis on non-health outcomes (20-50%), and insufficient attention to organizational, educational, and implementation barriers (20-50%).

Discussion: A pressing need exists for a universally accepted evaluation framework for genetic/genomic tests. Applying a general HTA methodology, potentially based on the EUnetHTA core model, that can integrate solid theoretical and methodological principles, and result in a validated, comprehensive, and widely shared tool for genetic test evaluation, is a viable option to foster the implementation of these technologies.

Key messages:

- Genetic/genomic test evaluations focus on technical accuracy and clinical value, often missing economic and organizational aspects.
- A universal, validated, HTA-based evaluation framework for genetic/genomic tests is needed to enhance their implementation in clinical practice.

Abstract citation ID: ckae144.1951
BE-SAFE: Intervention to reduce benzodiazepine and sedative hypnotics in elderly with sleep problems

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Introduction: Benzodiazepine and sedative hypnotics (BSH) may have significant adverse effects and associated costs, especially in older adults: increased risk of falls, fractures, hospitalisations, impaired functioning, delirium, cognitive impairment and mortality. Addressing BSH overuse is therefore an urgent priority to improve patient safety in Europe.

Objectives: To present the 5-year research project BE-SAFE, funded by the European Commission (HORIZON Europe) and by the Swiss State Secretariat for Education, Research, and Innovation. BE-SAFE aims to improve patient safety by addressing knowledge and practice gaps related to the reduction of BSH used by older adults for sleep problems.

Methods: BE-SAFE involves seven inter-related work packages and six European countries (Belgium, Greece, Norway, Poland, Spain and Switzerland) as well as experts from Canada; it proposes an interdisciplinary and inter-sectorial approach with experts in guidelines, implementation, dissemination, case studies, geriatrics and sleep. BE-SAFE will develop an intervention comprising trustworthy clinical guidelines, implementation recommendations and patient-centred material. This intervention will be tested in a cluster randomized controlled trial; 470 patients (65 years old and above) and 62 prescribing physicians in hospital and outpatient settings.

Results: BE-SAFE is expected to result in reduction of BSH use. Its toolkit, encompassing setting-specific implementation recommendations, will enable healthcare professionals (HCPs) to identify, evaluate and prevent risks of BSH use. The BE-SAFE approach could also be expanded to cover reduction of use of other medications.

Conclusions: Through BE-SAFE, patient safety is expected to improve; BE-SAFE project will reach a wide-ranging audience, including general population, informal carers, older adults, HCPs, healthcare system leaders and decision makers. Authors acknowledge the significant input of J. Grimshaw and W. Levinson, Canada.

Key messages:

- Deprescription of benzodiazepine and sedative hypnotics, especially in older adults, is a priority due to their side effects, particularly in this age group.
- The European project BE-SAFE aspires to create easy-to-use guidelines to this aim, improving thus patient safety and healthcare.

Abstract citation ID: ckae144.1952
Administrating first aid in road traffic accidents in Bulgaria: a cross-sectional study

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Background: Bulgaria had the highest road mortality rate among European Union members in 2023, having previously ranked second after Romania. Research has consistently demonstrated that prompt pre-hospital care can significantly reduce the adverse effects of road traffic accidents. Thus, we conducted a cross-sectional study to explore the involvement of trained road traffic casualties and bystanders in administering first aid.

Methods: The study, carried out between April and December 2021, collected data via an online survey administered to members of the Scientific and Academic Cooperation Council by the State Agency Road Safety. The survey encompassed a range of topics, including first aid training, involvement in traffic accidents, behaviour of bystanders, administration of first aid, and sociodemographics.

Results: Among the 292 respondents, a sizeable proportion (90%) reported having received first aid training. Of these, 35.1% (95% CI 29.2-41.1%; $p < 0.001$) had personally experienced a road traffic accident, and 64.5% (95% CI 58.1-70.1%; $p < 0.001$) had witnessed one. It is noteworthy that a fifth of those involved in accidents had employed the skills acquired from first aid training, which included applying a dressing to a wound, bleeding control, and immobilising a fracture. Correspondingly, an equivalent percentage of bystanders administrated aid, with the majority of them performing basic airway management. However, the findings revealed that a significant proportion of participants (79.3%) did not engage in providing first aid. The primary rationale stated was the assessment that it was nonessential.

Conclusions: Despite the growing road safety challenges and many respondents witnessing or being involved in accidents, only a quarter of those trained in first aid actually provided assistance. Considering the increasing number of deaths and severe injuries, it is crucial to assess the need for frequent first aid training and the population's proficiency in first aid.

Key messages:

- Bystanders' competence in administrating first aid can mitigate the adverse effects of road traffic accidents.

- Among other road safety measures, investments in first aid training can be beneficial in reducing fatalities and severe injuries.

Abstract citation ID: ckae144.1953
Loneliness and the prevalence of injuries, falls and fractures in older people

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The feeling of being alone (loneliness) experienced by older people contributes to deterioration of health, reduced physical and mental fitness, or inability to continue life roles. Loneliness may lead to behaviors that increase the risk of accidents, falls, and fractures, which are particularly dangerous in old age. The aim of this study was to assess the relationship between loneliness and the prevalence of injuries, falls, and fractures in older people. The studied group consisted of 464 people (48% men), aged 62-86 years (mean: 71.6, SD: 6.3), who participated in the Polish part of the HAPIEE Study (Health Alcohol and Psychosocial Factors in Eastern Europe); random subsample examined in 2019-2020. Trained nurses interviewed respondents in their homes. The 3-item UCLA scale (range 3-9, cutoff point$\geq$6) was used to assess loneliness. Data on injuries or accidents in previous 10 years, falls in previous 12 months, history of wrist, hip fracture or undergoing joint surgery/alloplastic was recorded. Multivariable logistic regression analysis was used. There were 460 participants included in the analysis. In 34 participants (7.3%) UCLA score was $\geq$6. In the previous 10 years, 95 respondents (20.5%) reported an injury or accident, 77 (16.6%) fell in previous 12 months. There were 6 (1.3%) respondents with history of hip fracture, 48 (10.3%) with history of wrist fracture, and 35 (7.5%) with history of joint surgery/alloplastic. No statistically significant relationship between loneliness and the prevalence of injuries, falls and fractures in older residents was found neither in the crude models nor after adjustment for covariates (age, sex, BMI, marital status, having offspring). Loneliness did not predict injuries, falls, and fractures in older urban residents. It seems that perception of being alone is weaker determinant of health as a measure not fully reflecting objective social isolation, which may actually have a greater impact on falls and injuries.

Key messages:

- 1/5 of older people have experienced any injury or accident and 17% reported to have fallen in the previous year.
- Loneliness did not predict injuries, falls, and fractures in older urban residents.

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Concept of a medical and public health cancer genomics platform

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Background: This study aims to produce the concept of an open-access medical and public health cancer genomics platform aimed at aggregating and sharing documentation of ongoing initiatives and data resulting from the CAN.HEAL project, available for EU researchers, healthcare professionals, policy makers, citizens and patients.

Methods: The context (reference sector, stakeholders and research evidences), feasibility (privacy management and data processing), and platform's end users were analysed; the CAN.HEAL project deliverables were listed and clustered; aspects related to the definition of the overall platform architecture and modules integration were studied.

Results: The project deliverables were catalogued into 8 categories which could be the platform's cloud interface main labels: results from events, policy papers, newsletters, mapping results and reports, datasets, recommendations and guidelines, use cases, courses and training activities. To define the overall system architecture, the following key activities should be implemented: content management system choice, hosting configuration and setup of the development domain, content management system installation, development of HTML web pages, data entry, data visualisation and graphic layout, and test and debug. To the modules integration purposes the following items should be addressed: creation of a server analytics account; social network integration; activation of additional system for sending newsletters.

Conclusions: Cloud-based data platform allows to securely manage, integrate, analyse and share large datasets. Establishing an infrastructure to help researchers access, store and analyse large amounts of biological data is of paramount importance both to enable advances in research and support health policy making processes. The CAN.HEAL platform could help aligning clinical and population-based interventions for integrating the genome of Europe biobanking initiative into public health genomics for cancer.

Key messages:

- Connecting healthcare data can support the challenge of accessing the relevant information needed for the policy and decision making processes to effectively promote population health and wellbeing.
- The set-up of a medical and public health cancer genomics platform promotes the effective translation of genome-based knowledge and technologies into public policy and health services.

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Preventing battery ingestion in children: public health strategies and technological innovations

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Background: Accidental ingestion of button batteries can cause severe and sometimes fatal injuries, such as chemical burns, esophageal perforations, and long-term complications. In response to this challenge, prevention strategies have evolved. A recent example of safety-targeted technological innovation includes new coin lithium batteries with more secure packaging, a non-toxic bitter coating to deter ingestion, and a 'color alert technology' that activates a blue dye upon contact with saliva. These features are designed to discourage ingestion and facilitate the rapid identification of an injury, allowing for timely medical intervention.

Methods: This abstract reviews the public health strategies proposed or implemented to prevent this serious type of injury, augmented by an analysis of data from the Susy Safe registry, which identified

1,115 cases of battery ingestion in children, and an additional 94 cases from the literature, totaling 1,209 injuries.

Results: The review of existing prevention strategies highlights various approaches, including public awareness campaigns, enhanced product regulations, and the implementation of stricter safety standards for batteries and devices. Analysis of Susy Safe data helps characterize the issue, underscoring the frequency and circumstances of battery ingestions and provides an empirical basis to assess the effectiveness of existing prevention strategies and to guide the development of new policies. The combination of technological improvements and legislative initiatives could represent a significant breakthrough in preventing these dangerous injuries.

Conclusions: While technological innovations are promising, effective prevention of battery ingestion will require a multifaceted approach that integrates technology, education, public policy, and regulatory oversight. Collaboration among manufacturers, lawmakers, health professionals, and the community is essential to reduce the incidence of these medical emergencies.

Key messages:

- Accidental ingestion of button batteries can cause severe and sometimes fatal injuries.
- The combination of technological improvements and legislative initiatives could represent a significant breakthrough in preventing button batteries in children.

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Progressing towards personalised medicine: the Genomic Data Infrastructure (GDI) project

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Funded by the European Commission under the Digital Europe Programme and through co-funding from participating Member States, the European Genomic Data Infrastructure (GDI) aims to support the 1+Million Genome initiative for establishing an effective data infrastructure for genomic data. GDI has the potential to fill the gap between genomic research and clinical practice, promoting the implementation of data-driven precision medicine in Europe with the harmonisation of genomic and related phenotypic and clinical data across adhering countries. Launched in November 2022, the GDI project is a collaborative effort involving partners from 20 European countries, divided into 8 Work Packages across three Pillars. GDI is structured with the development of a framework (Pillar I Long-term sustainability) and the necessary tools (Pillar II 1+MG infrastructure deployment), with the implementations of use cases (Pillar III Application and innovation solution) to support research and innovation, integrate findings into the clinic and healthcare, and improve public health measures. In the first 2 years, we completed the starter kit which we are currently testing with real data. Over the subsequent years, the GDI project aims to provide a federated and sustainable infrastructure for facilitating research that use genomic data. Through authorized secure access, clinicians and researchers can leverage genomic insights for faster and more precise clinical decision-making, diagnosis, and treatments. The GDI project represents a significant opportunity to improve healthcare outcomes and public health measures by leveraging the potential of genomics. By providing secure access to extensive genomic datasets combined with phenotyped data, the infrastructure sets the foundation for international partnerships in personalized medicine. Ultimately, this initiative holds the promise of advancing medical understanding, enhancing patient care, and fostering economic growth across Europe.

Key messages:

- GDI drives personalised medicine via international collaboration, building a sustainable infrastructure. Harmonizing data accelerates innovation, improving outcomes and fostering growth in Europe.
- GDI aims to revolutionize healthcare by collecting and harmonizing genomic and clinical data in Europe. It facilitates faster and more precise decisions and treatments, improving healthcare outcomes.

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GRADE evidence to decision framework in genomics guidelines: systematic review & appraisal

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Background: Transparent development of clinical practice guidelines (CPGs) is important for genomic medicine, as this field promises to partially challenge the traditional hierarchies of evidence. The GRADE Evidence to Decision (EtD) framework has recently emerged as a transparent and rigorous tool to produce recommendations. Our aim was to survey the genomic CPGs that used the GRADE EtD and appraise the applicability of its criteria and the quality of produced CPGs.

Methods: We systematically searched PubMed, Scopus, Web of Science and the gray literature till 2023 for relevant CPGs. From each eligible CPG, we extracted the reporting of the GRADE EtD criteria: benefits, harms, resource use, cost-effectiveness, acceptability, feasibility, equity and values. The quality of the CPGs were appraised across various domains using the (AGREE) II instrument.

Results: Among 1,144 records, 15 CPGs met inclusion criteria between 2018 and 2023, comprising 66 recommendations. Reporting of GRADE EtD criteria varied. Benefits, harms and their balance were addressed in approximately half of the recommendations 48% and 52% respectively. Feasibility, acceptability and values were also 52%, 47% and 40% respectively, resource use 39%, cost-effectiveness 23%. Equity was addressed in 36% of the recommendations. Quality appraisal of the CPGs also varied, domains were reported as follows: scope and purpose, clarity of presentation, editorial independence 86%, 85% and 84% respectively, rigor of development 77%, stakeholder involvement 72%, while applicability was 59%.

Conclusions: GRADE EtD is applied heterogeneously in genomic medicine CPGs, with difficulty in applying all of its criteria, including benefits and harms. Quality varied across domains with applicability of the CPGs less demonstrated.

Key messages:

- Transparent approaches are needed in developing CPGs for genomic medicine.
- Current genomic CPGs fail to address crucial aspects for producing recommendations, including benefits and harms.

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Insights from a hospital database: injuries among children under 6 years old due to falls

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Background: Pediatric injuries represent a significant public health concern globally, contributing to substantial morbidity and mortality among children. In Georgia, limited data exists regarding pediatric injuries. The aim of the study was to analyze epidemiological characteristics and trends of pediatric injuries among children aged under 6 years who received treatment in hospitals across whole country.

Methods: NCDC hospitalization database for 2015-2022 was used for the study.

Results: Over the study period, a total of 5979 children under the age of 6 received treatment in all hospitals across Georgia. The highest number of hospital admissions were registered in 2019. 60% were boys and 40% were girls of the hospitalized patients. Boys were predominant across all age groups, with the highest proportion among children aged 5 years old. There was a significant variation in hospital admissions according to the seasons, with the highest admissions occurrence in summer. As for the cause of admission, 37% resulted from falls on the same level, 10% from falls between different levels, 7% involved falling from a bed, 4% from falling out or through a building, and 4% from falling down stairs. The cause of falls was unspecified in 23%. In 72% of cases, the injured body part was the head, 17% were upper extremity injuries, and 7% were lower extremity injuries. Of the patients, 90% recovered, 2% discontinued treatment, 8% were transferred, and the outcome was fatal for 0.23% of patients. Among the fatal cases, 36% resulted from falls from, out of, or through a building, 29% from falls between different levels, 14% from falling or jumping, 7% from falls involving a bed, and 7% from falls on the same level.

Conclusions: These findings underscore the importance of preventive measures, especially regarding fall prevention, to reduce the incidence of pediatric injuries in Georgia.

Key messages:

- There was a significant variation in hospital admissions according to the seasons, with the highest admissions occurrence in summer.
- These findings underscore the importance of preventive measures, especially regarding fall prevention, to reduce the incidence of pediatric injuries in Georgia.

Abstract citation ID: ckae144.1959

Risk perceptions and risk behavior among children attending a road safety education program in Greece

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Background: Road Traffic Injuries (RTI's) are a significant public health concern for children, placing a considerable burden on their well-being. Greece has consistently recorded high numbers of RTI's among adolescents.

Methods: A university lab (LaHeRS, HMU) offers a road safety education program for primary and secondary students in Heraklion, Greece. The program consists of two parallel sessions (practical training using a driving simulator and activity-based risk-perception training) aimed at enhancing competencies in resilience to peer influence, empowering children to engage in informed decision-making and fostering hazard perceptions skills. The current presentation reports on 800 students who attended the program between October 2023 and April 2024. A structured questionnaire was used to collect data on student's beliefs, attitudes and practices on road safety.

Results: A total of 800 students attended the program from the broader Crete Region. 50.5% were girls with a mean age of 12.6 (SD = 2.3) years, 60.9% secondary education students, 58% resided in rural areas. 33.9% reported using a motorcycle and 33.8% a car without a driving license. 23.3% reported experiencing a road traffic incident while commuting. 57.1% identified road safety as a problem in their place of residence, only 26.5% felt safe on local streets and only 9.1% considered other road users as watchful. Additionally, 66.8% highly valued helmet use as a precaution in short distances. 71.6% reported always wearing seatbelt in front seats and 68.9% thought seatbelts are important at back seats. 52.1% did not identify themselves as risk takers on the street, and only 22.5% felt competent in avoiding road risks. 32.9% admitted experiencing peer pressure while commuting.

Conclusions: Risk taking behaviors and low use of protective measures are prevalent among school aged children and need to be addressed through targeted road safety education programs and interventions.

Key messages:

- Promoting safe behaviors and enhancing risk perception is critical among children and young adolescents.
- Road safety education should be integrated into school curricula, starting from pre-school education.

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Association between frailty and fear of falling among the elderly in Latvia

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Background: Frailty and fear of falling in the ageing population represent notable public health challenges. Fear of falling among the elderly population is a significant concern, as it can lead to decreased mobility, loss of independence, and increased risk of injury. Frailty intensifies this fear, as frail individuals often have reduced strength, balance, and coordination, making them more susceptible to falls.

Methods: Data from the population-based survey SHARE with respondents aged 50+ in Latvia of Wave 9 (collected 2022) was analysed. Frailty was assessed using the SHARE-Frailty Instrument. Fatigue, appetite, walking difficulties, and physical activity were self-reported and grip strength was measured using a hand grip dynamometer. Fear of falling was evaluated using visual material.

Financed by the project RSU internal and RSU with LSPA external consolidation No.5.2.1.1.i.0/2/24/I/CFLA/005, Postdoctoral Grant Associated factors of frailty and fall-related mortality in the older population in Latvia No.RSU-PG-2024/1-0005.

Results: The sample comprised 1439 older adults from Latvia (60.4 % female) with a mean age of 67.9 (95% CI 67.5 - 68.4). Based on SHARE-FI, frailty and pre-frailty prevalence were 7.2% and 44.5% respectively. In the study, 11.3% of females and 6.5% of males interviewed reported experiencing fear of falling. Frailty was correlated with fear of falling in 43.7% of frail individuals and 11.5% of pre-frail individuals. After adjusting for age and gender, those with pre-frailty and frailty had greater odds of fear of falling.

Conclusions: Understanding the interaction between the fear of falling and frailty in older adults can guide the development of public health policies and initiatives that aim to mitigate the fear of falling and, consequently, reduce the prevalence of frailty. Promoting healthy ageing behaviours, such as regular exercise, balanced nutrition, and social engagement, can help prevent frailty and its associated risks.

Key messages:

- Fear of falling results in limitation of activities, intensification of physical decline, and increased susceptibility to frailty.
- Encouraging healthy ageing underscores the significance of early recognition of frailty symptoms and accessing suitable support.

Abstract citation ID: ckae144.1961
Innovative Approaches for Personalized Cardiovascular Prevention: the INNOPREV multicentric trial

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Background: Cardiovascular diseases (CVD) represent a major global health concern, requiring innovative primary prevention strategies. Personalized prevention, through the use of digital technologies and genetic risk scores (PRS), holds promise but requires further investigation to assess clinical efficacy. Consequently, the INNOPREV trial aims to investigate the efficacy of PRS and/ or digital technologies in the uptake of CV preventive behaviors uptakes.

Methods: The INNOPREV trial is a multicenter randomized controlled trial conducted in Italy across three hospital centers in Rome, Catania, and Palermo. It aims to recruit 1020 participants aged 40-69 with a high 10-year CVD risk. Participants are allocated to traditional CVD risk assessment, or genetic testing, or digital interventions, or a combination of both. The study involves comprehensive CV risk assessments at baseline and follow-up visits at one, five, and twelve months. Data analysis will utilize mixed-effects models to analyze longitudinally collected data and explore potential moderators and mediators of behavior change.

Results: Preliminary results indicate good progress in recruitment, which currently stands at 250 participants (25% of expected). Recruited females have a mean age of 59 ± 6 years, while males have a mean age of 58 ± 6 years. Currently, PRS analyses indicate that 77% of participants have intermediate scores, and 23% have low scores. Follow-up will be essential to evaluate the efficacy of the proposed interventions.

Conclusions: We expect that the INNOPREV trial will provide evidence towards integration of innovative approaches based on PRS and digital devices, in the traditional preventive approaches for CVDs. Expectations are high based on the limited effectiveness of the current approaches in CV risk reduction based on lifestyle advice.

Key messages:

- INNOPREV trial examines PRS and digital technology for CVD prevention, aiming to enhance preventive efficacy. Initial findings suggest promising potential for innovative CVD prevention strategies.
- The INNOPREV trial aims to investigate the efficacy of personalized prevention strategies, including PRS and digital technologies, in improving cardiovascular preventive behaviors.

Abstract citation ID: ckae144.1962
A review on efficacy of polygenic risk score information on behavioral change and clinical outcomes

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Background: Polygenic Risk Score (PRS) represents a promising advancement in personalized medicine, enabling the inherited risk assessment for disease outcomes based on the effect of various common genetic variants. The utilization of PRS information to promote the adoption of healthier behaviors has witnessed an increase interest in recent years, but its full potential still needs to be fully addressed.

Methods: This systematic review aims to assess the efficacy of disclosing PRS information on individuals' engagement in risk-reducing interventions. CENTRAL database has been searched up to December 2023 to identify randomized controlled trials (RCTs) comparing the disclosure of PRS results, with scenarios where other or no information is provided. We performed a preliminary meta-analysis on the mean difference of clinical and psychological outcomes between the two arms.

Results: Out of 4419 results, we included 12 studies. Trials focused on primary (83%), secondary (8%) and tertiary (8%) preventive interventions. As for the possible diseases predicted by the PRS, cardiovascular diseases (33%) were the most common ($n = 4$), along with cancers (33%), diabetes (25%) and metabolic disease (8%). PRS result disclosure was compared to standard care ($n = 7$), no information provided ($n = 4$), and family risk ($n = 1$). By pooling data from four comparable studies, we report a reduction in the mean difference for LDL cholesterol in the intervention group of -6.39mg/dL (95%CI -10.09, -2.70, I^2=0%, $p < 0.001$). No significant changes were observed for systolic and diastolic blood pressure, and weight, in 3 studies and 4 analyzed studies, respectively. An increase in anxiety levels was observed towards the PRS group in 4 studies (SMD 0.24, 95%CI 0.02, 0.46, $I^2 = 66\%$, $p = 0.03$).

Conclusions: Preliminary analysis show small or no effects of PRS disclosure on intermediate health or psychological outcomes. Larger trials assessing the potentiality of PRS disclosure are still needed.

Key messages:

- From the analysis of twelve preventive trials on the efficacy of PRS on behavior change, we report a positive effect on LDL cholesterol reduction.
- Larger well conducted trials are needed to integrate PRS-based information into future preventive strategies.

Abstract citation ID: ckae144.1963
Genetic and other omics-based information in the most-cited recent clinical trials

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Introduction: Since the genomic revolution, the utilization of genetic and omics technologies has undergone considerable expansion within clinical studies, employed in design, analysis, and interpretation.

Methods: A recent study of Siena et al. developed a database containing the 600 most cited clinical trials published from 2019 to 2022. Building on this database, the aim of our study is to assess how frequently genetic and other omics-based information has been used in the design, analysis, results or conclusion of these recent influential trials.

Results: 132 out 600 (22%) trials used genetic or other omics. These trials were more likely to be oncology trials (76%vs34%), having industry funding (59%vs47%), and having industry authors (75%vs54%) than others. Overall, genetics and genomics were present in 75% of the trials (100/132), and oncology was the predominant medical field (76%, n = 101). The prevailing use was detection of specific mutations (n = 99), often (n = 60) used as eligibility criterion. These mutations were mostly somatic (n = 85), while 14 were germline. Other applications included transcriptomics (20.4%), proteomics (10.6%), metabolomics (8.3%) and metagenomics (8.3%). 36 studies (27%) employed multiple applications. Genetics or other omics were used in 10% of the studies (14/132) for randomization stratification and in 63% (83/132) to conduct subgroup analysis. Among the latter, in 48% (40/83) the presence of a somatic mutation was significantly associated with the investigated health outcomes, while germline mutation or other omics only in the 12% (10/83). In the trials conclusions, authors addressed the relevance of the genetic or omics information in 62.1% (82/132) of the trials.

Conclusions: A sizeable proportion of the most-cited clinical trials use genetics or omics-based information, but the large majority pertains to cancer mutations in oncology trials. Use of genetics and omics needs to become more common in other clinical trial fields.

Key messages:

- Genetic profiling and omics applications should be incorporated into trial design.
- Genomic research is mostly oncology related and it needs to be expanded to other medical fields.

Abstract citation ID: ckae144.1964
Cost of fall injuries in traffic are for pedestrians and bicyclists - municipal respons needed

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Motivation: Pedestrians and bicyclists have been posting in news and social media with reflections on municipal efforts to clean bicycle paths and sidewalks in icy and wet conditions. The municipality have lowered budgets for these cleaning efforts in recent years.

Methods: Analysis of A&E department registration data with the Nomesco core dataset allows for separation of location, age, sex, time of day and date of injury. Injury severity is classified according to diagnosis of treatment (minor/major). Cost calculations are based on national scales from the Ministry of Transport (ambulance/police/treatment/rehabilitation). Cold weather was defined as lowest day temperature < 5 degree C (Danish Metereological service DMI).

Results: During 2023 all pedestrians or bicyclists (n = 2516) treated at the A&E following an incident on sidewalks, streets or bicyclepaths (population 225.000) were included. Non-serious were (total/cold weather): sidewalks (699/266), bicyclepaths (414/117), streets (762/277). Serious: sidewalks (290/130), bicyclepaths (123/32), streets (228/100). Assessment of economical costs was DKK: Non-serious were (total/cold weather): sidewalks (20.8/7.9), bicyclepaths (12.4/3.5), streets (22.7/8.3). Serious: sidewalks (42.2/18.9), bicyclepaths (17.9/4.7), streets (33.2/14.6).

Discussion and conclusions: The economic burden for the population and municipality far exceeds the costs for cleaning the streets, bicyclepaths and sidewalks in icy and wet conditions. With appropriate injury surveillance and communication to municipal authorities revised cleaning principles was decided at the political level

Key messages:

- Appropriate and focused injury registration is needed for targeted political level decision.
- Standardized and targeted economic calculations are persuasive in the political arena at the local level.

Abstract citation ID: ckae144.1965
A university-based counseling program for perpetrators of family violence in Greece: initial evidence

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Penal mediation is defined in Greek Law 3500/2006 and aims at repairing the harm caused to the victim of family violence and rebuild family relationships. Mediation process starts upon victims' unreserved consent and perpetrators' willingness to stop further acts of violence, attend a counseling program and restore any harm/damage caused to the victim. Then the prosecutor ceases the case for 3 years and refers the perpetrator to counseling. If any of the previous conditions are violated during this period the criminal procedure continues at the stage before mediation. A university lab in Crete, Greece (LaHeRS, HMU) offers one of the few in Greece perpetrators' behavior change programs in collaboration with the Prosecutor's Office. LaHeRS counseling program consists of a minimum of 24 sessions per offender based on an individual or group approach. Emphasis is placed on perceptions of power and control, anger management, trauma management, emotional expression, and social/communication skills. Each perpetrator is offered 2 sessions (intake/violence documentation and assessment of individual/couples' needs), 2-3 sessions for psychiatric and risk assessment, 12-15 individual or group counseling sessions (combined with couples' sessions, as necessary), 2-4 individual social support sessions. Sessions are conducted by trained psychologists and social workers. The current presentation reports on the Intimate partner violence (IPV) cases referred between February

2022 and December 2023. A total of 70 IPV cases attended the program (male n = 65; mean age 43.4; Greek n = 56; urban residence n = 49; children average=1.92). Physical violence was reported in 54 cases and verbal aggression in 43 cases. Four perpetrators had mental health problems and 6 were identified with some form of drug and alcohol misuse. Lack of communication and emotional skills, lack of parent emotional support, gender roles stereotypes and patriarchal attitudes were common among perpetrators.

Key messages:

- It is important for perpetrators' programs to address the underlying causes of criminal behavior to promote positive changes in perpetrators' lives.
- Effective penal mediation programs require collaboration and partnership between justice agencies, academia and community organizations.

Abstract citation ID: ckae144.1966

The profile and aberrant driving behavior of juvenile traffic law violators in Greece

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The majority of juvenile offenses in Greece are related to road traffic violations. Juveniles in Crete region are required to attend an educational program offered by LaHeRS lab (HMU), in collaboration with the Prosecutor's Office as part of reformative measures. The current presentation reports on the profile and aberrant driving behavior of juvenile offenders who attended the program between 2023-2024. The Driver Behavior Questionnaire (DBQ) was administered to 181 juvenile offenders. Participants were males (97.8), with a mean age 18.6 (SD = 1.2), resided in rural settings (51.8%) and secondary students 60.7%. The mean age of the first offence was 15.8 (SD = 1.1, min 13 - max 18). Participants scored low in all DBQ scales (covered violations mean=6.1, sd = 7.5; unintentional violations mean=0.9, sd = 1.6; lapses mean=8.9, sd = 10.5). No statistically significant difference was found in DBQ scores between those who had and did not have a driver's license, as well as between those from urban or rural areas. The three DBQ subscales significant correlated ($p < .001$). Among other risky behaviors, 54.9% reported exceeding the legal speed limit, 66.3% reported aggression feelings when driving behind a slow vehicle, 34.5% used mobile phones while driving, 17.7% reported alcohol use while driving. Surprisingly, 85.5% stated high confidence addressing risks on the roads.

Key messages:

- Early interventions on aberrant driving behavior among adolescents is crucial.
- Educational programs should be tailored to address the unique needs of juvenile traffic law violators.

DR. Poster display: Maternal, child and adolescent public health

Abstract citation ID: ckae144.1967

Maternal employment characteristics as a structural social determinant of breastfeeding duration

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Background: The European Region exhibits the world's lowest exclusive breastfeeding rate at 6 months. Addressing work-related breastfeeding challenges is crucial, particularly for women navigating precarious work situations, compounding their adversity. This scoping review surveys research on maternal employment characteristics facilitating breastfeeding continuation post-return to work in the European Region.

Methods: Studies from 2013 to 2023 were gathered from Scopus, PubMed, and PsycInfo. Inclusion criteria comprised English or French quantitative/qualitative studies exploring links between maternal employment characteristics and breastfeeding status, duration, or experience. Participants were employed mothers of healthy children sustaining breastfeeding post-resumption of work. Key determinants included work-related factors contributing to socially diverse working conditions, encompassing type of employment, working conditions, and work environment. Geographic scope included World Health Organization European Region countries.

Results: Among 693 hits, 13 studies met criteria. Eight focused on work and breastfeeding, others explored broader breastfeeding determinants. Represented countries: Spain (n = 4), France (n = 4), UK (n = 2), Ireland (n = 2), Netherlands (n = 1). Findings highlighted methodological heterogeneity, indicating a lack of conceptual framework linking work, breastfeeding, and social health inequalities. Nonetheless, self-employment, non-manual professions with time flexibility, workplace breastfeeding facilities, coworker support, and breastfeeding workplace policies emerged as pivotal factors supporting working mothers' breastfeeding.

Conclusions: Backing breastfeeding choices for working mothers is crucial amid adversities faced by mothers and children. These results underscore the need for targeted workplace interventions, including time flexibility, breastfeeding facilities, and promotion of breastfeeding-friendly policies.

Key messages:

- Self-employment, non-manual occupations, time flexibility, breastfeeding facilities, support of co-workers and breastfeeding workplace policies promote continuation of breastfeeding.
- Policy directives targeting low skilled or precarious jobs are needed to reduce social health inequalities broadly, and in particular, in relation to breastfeeding practices.

Abstract citation ID: ckae144.1968
Children eight to twelve years of age have clear opinions about Positive Health

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Introduction: Positive Health (PH) focuses on the ability to maintain control over one's own health, also for children. This study explores how primary school children eight to twelve years of age think about the concept of PH and the dimensions of PH as described in the child tool.

Methods: A qualitative research method was applied, in which 25 semi-structured interviews consisting of eight questions were conducted.

Results: Children mainly think of nutrition, exercise and 'feeling good' when asked what PG means. More specifically on the different dimensions, for 'My body' they mainly think about sleeping, healthy eating and exercise. For 'My feelings and thoughts', they mainly mention being happy, sad or angry and also for 'feeling good about yourself' they mainly talk about emotions and feeling good where appearance is important. The dimension 'Now and later' is mainly about occupation later, according to the children. Friends and bullying are terms mentioned in the dimension 'Participation' and being able to do what they feel like is most important in the dimension 'Daily life'. For children, the dimensions 'Feeling good about yourself' and 'My feelings and thoughts' are most important. In addition, 'Participating' is important where having fun with friends is particularly mentioned by all children.

Conclusions: Children aged eight to twelve years of age perceive PH more than just the physical component and recognise all the dimensions of PH be it in their own words. Where children of all ages value the dimensions 'Feeling good about yourself', 'My feelings and thoughts' and 'Participating' most, these dimensions become even more important with increasing age. For teachers, youth health professionals and parents/carers this might imply, first, that the concept of Positive Health could be used as a tool when talking about being and staying healthy. Second, interventions might be more effective when aligned to children's perceptions and language.

Key messages:

- The concept of Positive Health could be used as a tool when talking about being and staying healthy.
- Interventions might be more effective when aligned to children's perceptions and language.

Abstract citation ID: ckae144.1969
Factors associated with the consumption of ultra-processed among Brazilian and Portuguese pregnant

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Considering the recent evidence about the negative effect of the consumption of ultra-processed foods (UPF) on current and future generations, and pointing to the development of public food policies adapted to the needs of pregnant women, it is important to identify the factors associated with high consumption of UPF. Cross-sectional comparative study that used data from: 1) a randomized controlled clinical trial conducted with pregnant women treated at Health Units in a city in São Paulo ($n = 350$), Brazil; and 2) the National Dietary and Physical Activity Survey 2015-2016, Portuguese pregnant women ($n = 226$). Two 24-hour recall surveys were collected. The UPF were classified according to the Nova. Usual consumption was estimated using the Multiple Source Method software. The percentage of energy coming from UPF was calculated using the mean (±SD) and 95%CI. Adjusted and crude linear regression models were used. The analysis were conducted in SPSS (version 21), considering $p < 0.05$ as significant. The average age of the total sample was 29.4(±6.3) years and the BMI corresponded to 27.8(±3.4)kg/m^2. The average daily energy consumption from UPF among Brazilian pregnant women was 449.6(±207.6) kcal, representing 24.2(±8.8)% of the total energy consumed on a usual day; among Portuguese women the average corresponded to 484.2(± 242.4)kcal and 22.3(9.3)%, respectively. In crude and adjusted linear regression models, the participation of UPF in total energy was higher among single Brazilian pregnant women compared to married women (3.2[0.8-5.5]p=0.009); Among Portuguese women, an inverse relationship was observed between weekly physical activity (PA) $\geq$150 minutes and UPF energy consumption (-3.2[-6.0 - -0.3] p= 0, 03). In the studied pregnant women, results showed that being single and practicing less than 150 minutes of PA weekly were factors associated with greater consumption of UPF, characterizing a priority group to receive nutritional interventions during prenatal care.

Key messages:

- Public policies and strategies to reduce the consumption of ultra-processed foods during pregnancy.
- Promotion of healthy lifestyle habits and impact on current and future health.

Abstract citation ID: ckae144.1970
Addressing deficits in malnutrition care in northern Sierra Leone; an educational intervention

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The 2017 Sierra Leone National Nutrition Survey reported poor practice regarding the medical management of severe acute malnutrition and the provision of emergency food to patients, particularly in the northern city of Makeni. We developed a training package for paediatric nurses, aiming to design an easily reproducible format which could be utilised nationally. Our aims were to empower and educate staff to provide more consistent care by challenging the negative cultural perception of malnourished patients and increasing knowledge of key guidelines. A two-day course based around UNICEF guidance on malnutrition was developed with the financial support of the Sierra Leonean office of the World Health Organisation. We sought the advice of local staff on issues impacting the quality of malnutrition care, including cultural barriers, educational limitations and supply issues. Lectures and practical sessions were devised covering recognition, assessment and management. Communication skills were taught using role play, focussing on the key role of nurses in parental education, and nursing skills were reinforced using practical tasks. Local staff identified for their strong teaching and leadership were recruited as instructors and to provide feedback on session design and content. 21 candidates attended from across the region, with the majority based in inpatient feeding units. Candidates completed a pre- and post-course written examination and a qualitative feedback form. Pre-course exam results ranged from 35%-85% with an average of 65%;

post-course results showed improvement with a range of 55%-100% and an average of 88%. Candidates rated the course on average 9.7 out of 10 and the written feedback was positive. We subsequently observed positive changes in clinical practice in the inpatient feeding units across the region. Based on these assessments the course achieved its aims. Further study is needed to know if noted clinical improvements were sustained.

Key messages:

- Challenging local cultural perceptions of malnourished patients is crucial to establishing improvement in medical care for this group.
- Sustainable educational intervention requires local instructors who can independently deliver teaching, and establishing this cohort at the course inception is critical to its ongoing success.

Abstract citation ID: ckae144.1971
Gambling Disorder among Croatian University Students

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Background: Gambling has become a routine form of entertainment for many young people studying in universities. This study aimed to investigate the prevalence and characteristics of gambling disorder among Croatian university students.

Methods: A cross-sectional study using an anonymous self-administered questionnaire with sociodemographic and socioeconomic questions along with the Croatian version of the South Oaks Gambling Screen questionnaire (SOGS-CRO) was conducted in a representative sample of Croatian university students from Osijek, Eastern Croatia during January, and February 2020.

Results: A total of 844 students participated in the study, 45.6% males and 54.4% females, with a median age of 19.00 years (interquartile range 19.00-23.00 years). Gambling activities were performed by 66.2% of the students, most commonly lotteries, sports bets, and bingo. The final scores of the SOGS-CRO suggested that 21.1% of students may have a gambling disorder, with 16.4% being "probable pathological gamblers" and 4.7% being "problem gamblers". Playing cards for money, animal bets, stocks bets, slot machines bets, pull-tabs, and other gambling activities such as online or videogames or mobile games present a higher risk of gambling disorder ($p < 0.001$, $p < 0.001$, $p < 0.001$, $p < 0.001$, $p < 0.001$, $p < 0.001$, respectively). Being male, repeating the year of study, being a student in interdisciplinary or technical field of study, and having a mother with gambling disorder ($p < 0.001$, $p = 0.029$, $p < 0.001$, $p < 0.001$, respectively) were the revealed contributing factors to the development of gambling disorder in study participants.

Conclusions: The study points to the fact that gambling disorder is quite a prevalent public health issue in the Croatian university student population. Specific public health preventive programs need to be designed and implemented in the study population to successfully prevent the development of investigated behavioral addiction.

Key messages:

- Public health interventions directed toward the prevention of gambling must involve younger population subgroups, such as university students.
- When designing the preventive programs for the successful prevention of gambling within the university student population selected sociodemographic variables should be considered.

Abstract citation ID: ckae144.1972
Cannabis use, mental health and suicide attempts among adolescents in Puerto Rico

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Cannabis is the most widely used illicit substance worldwide, with recent reports estimating an 11.6% annual prevalence of use in North America. Mental health, suicidal ideation, suicide attempts and completed suicides, has been the focus of several studies exploring its association with frequent cannabis use. The purpose of this study is to evaluate the association between cannabis use, mental health symptoms and suicide attempts among adolescent students in Puerto Rico. Consulta Juvenil X is a monitoring program that aims to study the prevalence of substance use, mental health and violent behavior as well as the risk factors associated with those practices. The survey was conducted during the 2018-20 academic year. The study utilizes a self-administered questionnaire. The sample included 4,668 (54%) females and 3,977 (46%) males. Half of the sample was between seventh and ninth grade with a median age of 15 years old. The majority of the sample was recruited from the public school system in Puerto Rico (70.3%). The prevalence of marihuana use in the public and private schools participating in the study was 9.4% and the suicide attempts was 7.6%. Multiple logistic regression analyses revealed that students who use marihuana during the last year were significantly more likely to report depressive and anxiety symptoms after controlling for sociodemographic variables. Moreover, adolescents who use marihuana were significantly more likely to report suicide attempts after controlling for depression symptoms (OR = 3.07; 95%CI: 2.53-3.72). Findings of this study suggest that adolescents who report marihuana use seem to be at higher risk for mental health problems and suicide attempts. Understanding who is most likely to report marihuana use is important in developing interventions to prevent mental health problems and suicidal behaviors.

Key messages:

- Findings of this study suggest that adolescents who report marihuana use seem to be at higher risk for mental health problems and suicide attempts.
- Understanding who is most likely to report marihuana use is important in developing interventions to prevent mental health problems and suicidal behaviors.

Abstract citation ID: ckae144.1973
Breast milk sharing practices in emergency settings

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Background: In emergencies, breast milk sharing becomes essential to sustain infant nutrition when access to maternal breastfeeding is disrupted. This study examines donor motivations and assesses the impact of such initiatives on infant health outcomes during wartime.

Methods: This qualitative study investigated a community of breast milk donors on a Facebook platform for the month following the start of the war on October 7, 2023. We investigated two main groups participating in breast milk sharing through reflective thematic analysis of social media messages.

Results: A count of posts one month before and after October 7 revealed a doubling in post frequency post-7/10, emphasizing the surge in war-related posts. Two main themes emerged concerning the war:

1. Infant needs: Posts addressed various infant needs, including general necessities and those specific to war-related situations. Requests for milk sharing emerged from the second day of the war, particularly for infants whose mothers were missing or injured. Government information from the National Human Milk Bank was shared within these Facebook groups, encouraging donations for these infants.
2. Donor Motivation: Posts reflected both non-war-related and war-related motivations, with a notable emphasis on the latter. Authors, including both women and men, actively promoted the donation of human milk to conflict-affected areas. Suggestions included pumping milk specifically for war-affected infants or offering frozen human milk. Some posts also offered to collect and deliver human milk to needy infants within the affected regions.

Conclusions: Post frequency doubled in both Facebook groups compared to the previous month, mainly focusing on war-related topics, indicating an increased drive to share human milk with those affected by the conflict.

Key messages:

- Breast milk sharing, crucial in emergencies, analyzed via social media, sheds light on donor motivations and impacts on infant health during conflicts.
- This qualitative study investigated a community of breast milk donors on a Facebook platform for the month following the start of the war on October 7, 2023.

Abstract citation ID: ckae144.1974
Heterogeneity of postpartum bonding and maternity blues among mothers three days after delivery

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Background: Findings about risk factors for postpartum depression (PPD) are often inconsistent. The variability could be due to the heterogeneity of characteristics of mothers at risk for PPD in certain populations, which has important mental health implications. We examined the heterogeneity of sociodemographic, pregnancy and labor characteristics in postpartum women referred to follow-up care on the third day after delivery.

Methods: We performed a nested cross-sectional latent profile analysis (LPA) on a convenience sample of women in a tertiary community hospital in Split, Croatia in 2020. Participants completed the first subscales of Postpartum Bonding and Maternity Blues questionnaires, as well as five subscales of the Questionnaire of Family Functioning According to Parents and 12 sociodemographic, pregnancy and childbirth-related variables. LPA identified profiles of mother-infant bonding and postnatal blues, and multinomial regression analysis was used to determine the influence of different profiles.

Results: Of the 318 participants, the best-fitting model had three latent profiles. First ($n = 76$, 24% of participants) and second ($n = 216$, 68% of participants) latent profiles showed good postpartum bonding, while second profile showed higher primary blues. Third profile ($n = 80$, 25% of participants) was characterized by poorer postpartum bonding and elevated primary blues. Only good youth experiences of mothers with their parents (relative risk [RR] 0.26; 95% CI 0.12-0.57; $p = 0.001$) and good present-day relationships with partners (RR 0.26; 95% CI 0.13-0.52; $p < 0.001$), significantly decreased the risk for third latent profile classification.

Conclusions: Postpartum bonding and primary blues of women who gave birth three days prior were heterogeneous. This heterogeneity could result in the well-documented heterogeneity of postpartum depression in women, and therefore, be the focus of mental health interventions in similar settings.

Key messages:

- We found heterogeneity of sociodemographic, pregnancy, and labor characteristics in postpartum women after delivery, highlighting the variability in risk factors for postpartum depression.
- This heterogeneity could result in the well-documented heterogeneity of postpartum depression in women, and therefore, be the focus of mental health interventions in similar settings.

Abstract citation ID: ckae144.1975
Risk Factors for Unplanned Readmissions in Paediatric Neurosurgery: A Systematic Review

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Background: Unplanned hospital readmission (UHR) after paediatric neurosurgery is an important indicator of surgical outcomes. As this field deals with complex cases, there is an increased likelihood of potential complications and the subsequent need for readmission. Hence, the study aims to identify factors contributing to 30-day and 90-day UHR rates in children undergoing neurosurgical procedures.

Methods: A systematic review (Prospero CRD 42023455779) was conducted, which included studies from Embase, Medline, CINAHL, and Global Index Medicus databases that reported unplanned readmissions within 30-/90-days of an index neurosurgical procedure. Quality and risk of bias assessment was done using the Newcastle-Ottawa scale. Data extraction and narrative synthesis were performed to identify significant factors associated with UHR.

Results: 2593 titles were identified following the search strategy. 52 studies were included after screening and quality appraisal. Most studies were from the United States and are retrospective cohort in nature. Majority were cranial procedures ($n = 30$), with common ones being shunt procedures for hydrocephalus and cranial tumour resections. Aetiology-related, procedural complexities, and age emerged as the three most common significant risk factors. Age is a significant predictor (9/52), with younger children facing higher odds compared to their older counterparts across different procedures. While early readmissions can be due to disease progression, some are linked to preventable causes. The included studies also exhibited significant heterogeneity. Variations in definitions and examined variables, as well as the inclusion of studies from both national databases and single institutions, contributed to this heterogeneity.

Conclusions: Overall, findings from this study contribute to a collective understanding of factors affecting unplanned readmissions in paediatric neurosurgery.

Key messages:

- Identified risk factors can help guide creating and refining surgical protocols for post-operative monitoring and follow-up.
- UHRs reflect the interplay among surgical complexity, patient characteristics such as age, and disease aetiology.

Abstract citation ID: ckae144.1976
Professionals' perspectives on barriers for timely antenatal care for ethnic minority women

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Background: Antenatal care (ANC) is important to promote health and well-being of women and babies. Women from ethnic minority backgrounds are likely to start ANC later and to attend fewer appointments than recommended compared to white women. These women and their babies are more likely to experience negative health outcomes. This study explored the perspectives of maternity care professionals on barriers for timely ANC initiation for ethnic minority women in the UK (UK) and The Netherlands.

Methods: We conducted qualitative semi structured in-depth interviews with 19 healthcare professionals (eight and eleven from the UK and The Netherlands respectively) including nurses, midwives, general practitioners and obstetricians. All interviews were conducted virtually on Teams or Zoom and were recorded, transcribed and analysed using a thematic approach using ATLAS.ti version 9 software.

Results: Maternity care professionals in the UK and The Netherlands perceived more or less similar barriers for ethnic minority women for timely ANC initiation. As reflected in the accounts, these barriers operated at individual and health system levels, and included negative interactions with antenatal care providers, women's and community's lack of trust in the health system, differences in spoken language between women and professionals, cultural differences, role of family and wider networks, and difficulties in reaching care. Perceived measures to facilitate access included skill development of healthcare professionals; educating women and building awareness in the community about how to navigate the healthcare system; integration of preventative psychosocial care into maternity services and continuity of care.

Conclusions: Similarity in perceived barriers and mitigation measures indicated the potential for developing and implementing targeted cross-country interventions to facilitate timely ANC initiation for ethnic minority women in high-income European countries.

Key messages:
- Maternity care professionals in the UK and The Netherlands perceived similar barriers for ethnic minority women for timely ANC initiation.
- There is potential for developing targeted cross-country programmes and services to support mothers from ethnic minority backgrounds to start antenatal care on time.

Abstract citation ID: ckae144.1977
Cross-sectional study of bystander roles in school bullying incidents in the United Arab Emirates

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Background: School bullying is a widespread public health issue with far-reaching consequences on the psychological well-being and academic performance of students. This study focuses on the perspective of bystanders to better understand their role in the dynamics of bullying in school environments in the United Arab Emirates.

Methods: We employed a multi-stage random sampling approach to collect data from students in grades 6 to 9 at the sample of public and private schools in Al Ain, using a validated self-report questionnaire. IBM SPSS software version 28.0 was used for the analysis using appropriate statistical tests.

Results: Out of 728 surveyed students, 290 (40%) were from private and 438 (60%) from public schools. A total of 425 (58%) of students were bystanders observing bullying incidents across all schools, with 65% of males versus 45% of females witnessing such events. Physical bullying was the most frequent type of bullying observed by 67% of students. The classroom was most often location, 75% in private schools and 61% in public schools. Verbal abuses such as making fun and name-calling were commonly reported. Bullying targeting physical appearance was particularly noted, with 31% of bystanders stating that bullying was due to perceptions of a student's face being 'funny' and 21% due to beliefs about weight. 59% felt sad, and 29% didn't go to school as a result of the bullying. Reporting to teachers was limited (25%).

Conclusions: The high prevalence of bystanders in school bullying incidents in Al Ain was observed, especially among male students. The results emphasize the critical need for comprehensive anti-bullying programs that include bystander intervention strategies to promote a supportive and inclusive educational environment.

Key messages:
- Many of students are witnessing bullying, highlighting the need for effective intervention programs.
- Empowering bystanders is crucial in preventing bullying and enhancing the safety at schools.

Abstract citation ID: ckae144.1978
Can a mindfulness programme in schools for students with ADHD symptoms improve emotional well-being?

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Background: This study employs a cluster randomized controlled trial to investigate the effectiveness of a universal mindfulness-based intervention (MBI) in classrooms in improving emotional well-being and emotion regulation among adolescents with elevated ADHD symptoms.

Methods: The study comprised 342 students: 164 in an MBI group, 128 in a relaxation control group, and 47 in an inactive control group. Positive and negative emotional states and the emotion regulation strategies of rumination, acceptance, catastrophizing, positive reappraisal, and self-kindness were measured at the pre- (T0) and post-intervention (T9) and the 26-week follow-up (T26). Linear mixed models were used to analyze the intervention effects among all participants and separately by gender and ADHD symptom type.

Results: The results showed that compared to the controls, there was a beneficial effect on the MBI group concerning acceptance at T9; acceptance remained at the baseline level in the MBI group but decreased in the inactive control group. In contrast, in the inactive control group, rumination decreased at T9, and positive reappraisal increased at T26 compared to the MBI group. The MBI had no detectable effects on self-kindness, catastrophizing, or positive/negative emotional states. Findings on the emotion regulation strategies varied by gender. In boys, the MBI increased acceptance at T9 compared to the inactive control group, whereas in girls, the programme reduced catastrophizing at T9 and T26 compared to the active control group. Contrary in boys, MBI group exhibited less reduction in catastrophizing at T9 compared to the inactive control group.

Conclusions: Universal MBIs may have some beneficial effects on emotion regulation in adolescents with elevated ADHD symptoms. Both girls and boys might be responsive to universal MBIs as part of the school curriculum, however not all consequences are positive (especially in boys).

Key messages:

- Universal MBIs in classrooms may have some beneficial effects on emotion regulation among adolescent with elevated ADHD symptoms; however, the results are contradictory and more research is needed.
- Even though, universal MBIs may have some benefits, they may require modifications to lead to more beneficial effects on emotional well-being when used with this subgroup of students.

Abstract citation ID: ckae144.1979
Social support for women undergoing induced abortions in Belgrade, Serbia

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Background: Having an unwanted pregnancy requires social support to help women ease the stress and stigma of having an induced abortion. The study aimed to investigate the main providers of social support to women having induced abortions.

Methods: Women undergoing induced abortions from 2022 to 2024 in a University clinic in Belgrade were invited to participate. Data were collected using an anonymous questionnaire examining socio-demographic data of women and sources of social support.

Results: This study included 433 women out of which 50.1% informed their mothers about the abortion, 23.1% their fathers, 87.3% their partners, 42.3% their friends, and 1.6% women told no one about the abortion. A total of 40% of women were supported to undergo the abortion by their parents, 80.1% by their partner, 34.9% by friends, and there were 2.1% of women who did not get any support to perform abortion. There were significantly more ($p = 0.001$) mothers (163 vs. 54), fathers (87 vs. 13), partners (331 vs. 47), and friends (136 vs. 47) who were informed about the abortion and also supported women compared to those who did not provide support. Getting support for the abortion by the parents was associated with younger age, not being in a relationship, and not having children. Support of the partner was linked to older age, higher education, being unemployed, being married with more children, and having abortions previously. Being supported by friends or not being supported at all did not correlate with socio-demographic data of the investigated women.

Conclusions: Women are generally supported by their family and friends in their decision to have induced abortions. This study identified socio-demographic factors that impact the choice of principal supporting person when undergoing induced abortion.

Key messages:

- Partners are the main source of social support for married women who had induced abortion.
- Parents are principal social supporters for single younger women undergoing induced abortion.

Abstract citation ID: ckae144.1980
Is confidence in knowledge related to childbirth fear and mode of birth among Polish women?

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Background: In Poland, cesarean section (CS) rate is 48% what means that it is one of the highest rate among OECD countries and the highest in the European Union. WHO has considered that CS rates higher than 15% at the population level are not associated with reductions in maternal and newborn mortality rates. Fear and attitudes towards childbirth are shaped years before the first pregnancy. Yet, little is understood about how young people's knowledge, attitudes and fears concerning the birth process shape their healthcare preferences around birth. Thus, the aim of the study was to examine whether confidence in knowledge was associated with childbirth fear prior to pregnancy and preference for CS.

Methods: We recruited 782 women aged 18 - 35 (mean 24.7, $sd = 3.19$) who had never been pregnant but wished to have at least one child in the future. The women answered questions about: (i) socio-economic situation, (ii) confidence in knowledge and educational needs related to pregnancy and childbirth; (iii) fear of childbirth prior to pregnancy; (iv) preferred mode of birth in the hypothetical pregnancy in which there are no medical indications for cesarean section.

Results: Almost one in four women (22.1%) preferred CS in a hypothetical low-risk pregnancy. In addition, most often young women gained knowledge on pregnancy and birth from experiences and stories of family members (62.3%). Women with moderate and high level of confidence in knowledge had respectively lower odds of high level of childbirth fear prior to pregnancy comparing to women with low level of confidence in knowledge ($OR = 0.57$, 95% CI: 0.39-0.83 and $OR = 0.54$, 95% CI: 0.33-0.88, respectively).

Conclusions: Increasing knowledge about pregnancy and childbirth among young women might lower childbirth fear and thus, indirectly, lower rates of CS in the future.

Key messages:

- The results of this study may solve very important public health problem i.e. the growing rates of cesarean section.
- Confidence in knowledge may be an important factor associated with the level of childbirth fear.

Abstract citation ID: ckae144.1981
Association of childhood mental health and cardiovascular risk in adolescence and young adulthood

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Introduction: Mental health (MH), and in particular depression, is linked bi-directionally to cardiovascular disease through biological as well as behavioral pathways. Low MH has been associated with behaviors associated closely with cardiovascular risk (CVR) factors, such as reduced physical activity and sleep disturbances. It is not clear at what age the relation between MH and CVR begins to manifest and if MH in the young is also associated with vascular remodeling, operationalized as carotid-intima media thickness (CIMT).

Methods: We investigated the longitudinal association between childhood MH problems (age 3 to 17) and CVR factors as well as CIMT from carotid sonography in 4,361 14 to 28-year-olds of the KiGGS cohort. Using linear regression analyses adjusted for socioeconomic status, we analyzed the association of the Strength and Difficulties Questionnaire (SDQ) score with systolic blood pressure (SBP), body mass index (BMI), total cholesterol (TC), and CIMT in z-scores by sex and age. Additional cross-sectional analyses included scores of the Mental Health Inventory (MHI-5) and Patient Health Questionnaire (PHQ-9) in young adulthood.

Results: Childhood SDQ scores were significantly associated with SBP, BMI and TC one decade later ($-0.03 \leq ß \geq 0.02$). Cross-sectionally, no association of MHI-5 scores in young adults with CVR factors was found. PHQ-9 scores in young adults were associated significantly with SBP and BMI ($-0.26 \leq ß \geq 0.01$). The investigated MH problems from childhood to young adulthood were not linked to CIMT.

Conclusions: Our results confirm an early association of MH with the examined CVR factors. However, we could not find evidence for an association between MH and vascular remodeling in this population-based sample of adolescents and young adults. Our results emphasize the importance of prevention strategies focusing on both, physical and MH of the young, in order to prevent vascular damage later in life.

Key messages:

- Our results show an early association of childhood mental health with the examined cardiovascular risk factors systolic blood pressure, body mass index and total cholesterol one decade later.
- Our results confirm the importance of prevention strategies focusing on both, physical and mental health of the young.

Abstract citation ID: ckae144.1982
Prescribing contraceptives to minors without parental knowledge and consent

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Background: Sexually active adolescents may seek oral contraceptives without parental consent, posing challenges due to minors' confidentiality and consent regulations. This is especially the case under the un-nuanced Israeli legal scheme regarding adolescents' care.

Methods: Israeli OBGYNs were contacted through mailing lists and social media groups and asked to fill an online questionnaire regarding their experience and protocols concerning prescription of contraceptives to minors. They were also asked about their comprehension of the relevant legal obligations, the importance they ascribe to different ethical interests and considerations, as well as their training.

Results: Of the 177 responding gynecologists, 75% consulted minors about contraceptives during the past year, most of them without any training on providing care to adolescents. More than a third of respondents believed that parental involvement wasn't legally required, while only 8% thought it mandatory for all minors under the age of 18. Most (75%) would 'almost always' prescribe contraceptives without parental knowledge upon request, while 20% never would. No correlation was found between respondents' practices and their perception of the legal obligations. Participants agreed that the risk to the health of the minor due to having sex without contraceptives is of utmost importance. Those willing to prescribe gave greater weight to minor's autonomy consideration, while those who do not prescribe were more concerned with the acts legal ramifications. The majority set the age of 15 as the threshold for consistently prescribing contraceptives to minors without parental involvement.

Conclusions: Access to contraceptives for mature minors without parental involvement is vital. There is great need for education and training for healthcare providers on providing medical treatment to adolescents, as well as for the development of policies and guidelines, addressing adolescents' health disparities.

Key messages:

- Israeli legal requirements challenge and hinder adolescents' care as well contradict OBGYNs ethical and professional beliefs.
- There is great need for education and training, as well as for the development of policies and guidelines, addressing adolescents' health disparities.

Abstract citation ID: ckae144.1983
Prenatal exposure to phthalates and children's mental health trajectories: Rhea Cohort, Greece

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Background: Accumulating evidence suggests that phthalate exposure affects neurodevelopment, including emotional and behavioral outcomes. Our aim was to investigate if prenatal phthalate exposure affects the developmental course of internalizing and externalizing symptoms from early childhood to adolescence.

Methods: Concentrations of seven phthalate metabolites were measured in first-trimester maternal spot urine samples, and DEHP, and high and low molecular weight phthalate concentrations were calculated (HMW and LMW, respectively). Mothers reported internalizing and externalizing symptoms via the Strengths and Difficulties Questionnaire at 4 years and the Child Behavior Checklist at 6, 11 and 15 years. Group-Based Trajectory Modeling was used to classify 546 participants of the Rhea Cohort (Crete, Greece) into 4 distinct groups (Stable low, Stable high, Low-Increasing, and High-Decreasing symptoms). We evaluated the association of prenatal phthalate exposure with the odds of an adverse (Stable high, Low-Increasing, and High-Decreasing) internalizing and externalizing symptom trajectory in 150 children using multivariable-adjusted logistic regression (reference group: stable low).

Results: Only for girls, exposure to DEHP and HMW phthalates was associated with higher odds of being grouped in an adverse internalizing symptoms trajectory (OR [95%CI]: 1.52 [1.03, 2.25] and 1.57 [1.03, 2.39], respectively). Regarding externalizing symptoms, interactions with gender emerged for DEHP ($p = 0.024$) and HMW ($p = 0.028$) phthalates, and increased odds of being grouped into an adverse trajectory were observed in girls, whereas boys showed the opposite trend, albeit none reached statistical significance.

Conclusions: The findings suggest programming effects of prenatal phthalate exposure on the developmental course of emotional symptoms in girls. Further research is needed to clarify the association between in utero phthalate exposure and behavioral symptoms.

Key messages:

- Phthalate exposure is linked to adverse trajectories of emotional symptoms, emerging from preschool age and up to adolescence.
- Phthalate effect on internalizing and externalizing symptoms varies by gender.

Abstract citation ID: ckae144.1984
Youth insights on a digital crowdsourcing intervention to reduce HIV stigma in Kazakhstan

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Background: In Kazakhstan, nearly a quarter of new HIV infections occur among adolescents and young adults (AYA). Testing can reduce the spread of HIV, yet AYA have low testing rates in Kazakhstan, due in part to HIV-related stigma. This qualitative paper explores participants' perceptions of digital crowdsourcing content designed to reduce HIV stigma and promote HIV self-testing among AYA in Kazakhstan.

Methods: We conducted semi-structured interviews with 20 AYA who participated in a digital crowdsourcing intervention. Questions focused on AYA's perceptions of the crowdsourced content they viewed for the intervention, namely their likes, dislikes, the perceived impact of the content, and areas for improvement. Qualitative data analysis was conducted using a thematic approach.

Results: Findings revealed a perceived need for more youth-developed digital interventions. AYA favored artistic, interactive content featuring health specialists, youth characters, or real-life stories. Short videos and images were AYA's favorite content formats. Many AYA showed less interest in longer videos and text-heavy content, finding them hard to understand. Most participants reported improved knowledge of HIV, reduced stereotypes related to HIV, heightened interests in HIV topics, more willingness to get tested, and changes of attitudes towards people living with HIV. Recommendations for future interventions include tailoring content to different AYA age groups and creating more engaging and easily digestible content.

Conclusions: This study highlights the potential of crowdsourced digital interventions in promoting HIV knowledge and awareness of HIV-related stigma among AYA in Kazakhstan. AYA appreciated youth-developed, interactive content that included real-life stories and artistic visual presentations.

Key messages:

- This study highlights the potential of crowdsourced digital interventions in promoting HIV knowledge and awareness of HIV-related stigma among AYA in Kazakhstan.
- AYA appreciated youth-developed, interactive content that included real-life stories and artistic visual presentations.

Abstract citation ID: ckae144.1985
Anemia in pregnancy and adverse maternal health outcomes - birth-registry based study from Georgia

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Anemia in pregnancy is an important public health challenge; however, it has not been thoroughly studied in Georgia. We assessed the prevalence of anemia during pregnancy across Georgia and the association between anemia in the third trimester of pregnancy and adverse maternal outcomes. We used data from the Georgian Birth Registry and included pregnant women who delivered between January 1, 2019, and August 31, 2022 ($n = 158{,}668$). The prevalence of anemia (hemoglobin (Hb) < 110 g/L) at any time during pregnancy was calculated per region. Women in the third trimester were classified into three groups, based on their lowest measured Hb value: no (Hb ≥ 110 g/L, reference group); mild (Hb 100-109 g/L); and moderate to severe anemia (Hb < 99 g/L). Adjusted odds ratios (aOR) with 95% confidence intervals (CIs) were calculated for the associations between anemia status and post-delivery intensive care unit (ICU) admission and preterm delivery. The prevalence of anemia occurring at least once during pregnancy was 40.6%, with large regional differences in anemia prevalence (25.1%-47.0%). Of 105,811 pregnant women with Hb measurements in the third trimester, 71.0% had no anemia; 20.9%, mild anemia; and 8.1%, moderate or severe anemia. The odds of post-delivery ICU admission did not increase linearly with decreasing Hb value (P for trend .13), and the relationship was inverse for preterm delivery (P for trend .01).

Key messages:

- A considerable proportion of pregnant women in Georgia have anemia during pregnancy, and the prevalence and quality of reporting differ across regions.
- To accelerate national progress toward the SDGs and mitigate the consequences of anemia, equal countrywide access to high-quality ANC programs and complete registration of Hb values should be ensured.

Abstract citation ID: ckae144.1986
Professional support for children or adolescents whose mental well-being is at risk

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Background: Children and adolescents' mental health issues are globally among the most significant concerns. Research on the topic often focuses on already manifested mental health problems, and research concerning mental well-being and the preferences of service users regarding early-stage support is scarce. This study aimed to define what professional support experts-by-experience hope for a child or adolescent in situations where mental well-being is threatened.

Methods: The qualitative study with focus group interviews was conducted in Finland during the autumn of 2022. Participants ($n = 26$) were experts-by-experience who had experienced threats to mental well-being either during their own childhood (before the age of eighteen years) ($n = 19$) or through the perspective of being a parent (n = 3), or both (n = 4). The data was analyzed using inductive content analysis.

Results: In situations where the mental well-being of children or adolescents is at risk, professionals working with families were expected to 1) demonstrate an appreciative and compassionate attitude, 2) provide a daycare environment or school environment that supports mental well-being, 3) support the participation of children and adolescents, 4) involve and support family, 5) organize peer support, and 6) provide services that are seamless and need-adapted.

Conclusions: The results help to develop services supporting mental well-being, considering the perspective and preferences of service users. During the study, one model identified to meet the participants' desires was the Open Dialogue Approach originally developed in Finland.

Key messages:

- In services supporting mental well-being, ensuring the child's or adolescent's participation and involving parents is important.
- In addition to the support provided by professionals, the significance of peer support was highlighted. Professionals should actively refer service users to peer support.

Abstract citation ID: ckae144.1987
Maternal health in conflict-affected settings: a case study from a frozen conflict zone

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Background: Reproductive, maternal, newborn and child health are negatively impacted in conflict-affected settings, and may be acutely affected in frozen conflicts due to fragile health systems and uncertain geopolitical contexts. To better understand maternal health in a frozen conflict zone, we examined maternal health outcomes in Nagorno-Karabakh during a ceasefire period prior to the forced displacement of the entire population.

Methods: Multistage cluster sampling was used to sample 1023 households in Nagorno-Karabakh during the summer of 2022. From each household, one woman, age 18 to 49, participated in an interviewer-administered survey. Maternal health outcomes were assessed among all married women who had ever given birth. Women with at least one child under 5 years were also asked about their most recent pregnancy.

Results: Among all married women, 85.5% had ever given birth, 19.0% ever had a miscarriage, and 2.8% ever had a stillbirth. Of the 299 women with at least one child under 5, 97.7% received antenatal care, of which 90.4% had at least 4 visits. Over half experienced toxicosis (51.8%), 16.4% high blood pressure, 13.0% anemia, and 6.4% hemorrhage during their most recent pregnancy. The most common delivery complications were uterine scarring (19.7%), breached birth (7.0%), prolonged labor (6.4%) and hemorrhage (5.7%). Age was found to be a significant factor, with the odds of toxicosis ($p = 0.039$) and breached birth ($p = 0.009$) decreasing, yet the odds of miscarriage ($p = 0.001$) and hypertension ($p = 0.007$) increasing with age.

Conclusions: Almost all women reported adequate antenatal care with birth outcomes comparable to global statistics, demonstrating the ability of Nagorno-Karabakh to provide sufficient maternal healthcare while in a frozen conflict. Fortifying and ensuring access to maternal and reproductive healthcare, particularly antenatal care, is vital for ensuring the health and wellbeing of women and children in conflict-affected settings.

Key messages:

- Women in Nagorno-Karabakh received antenatal care and experienced birth outcomes similar to global rates, demonstrating the value of access to reproductive healthcare in conflict-affected settings.
- Future studies should examine the impact of forced displacement on the women of Nagorno-Karabakh to better understand the effect of conflict on reproductive and maternal health.

Abstract citation ID: ckae144.1988
Harming the innocent: estimating the number of children affected by parental problem gambling

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Background: The impact of parental problem gambling on children and adolescents encompasses negative outcomes in psychological, financial, behavioral, physical health, and family relationship domains. For Germany, estimates on the number of co-affected minors are lacking.

Methods: Within the population-representative Germany-wide "Glücksspielsurvey 2023" (i.e., "Gambling Survey 2023"), we assessed parenthood in survey participants with gambling disorder (GD; according to DSM-5) as well as the number of minors (age <18 years) living a) together with a person with gambling disorder (shared household) or b) apart from a parent with gambling disorder (separate household). Using a "minimum maximum approach," we performed a weighted extrapolation to estimate the number of co-affected minors in the German resident population (range 18 to 70 years of age) and the prevalence of parental GD among Germany-residing minors.

Results: 46.8% (n = 132) of survey participants with GD report shared households with minors and 16.3% (n = 46) separate households. The average number of minors concerned was 1.55 (SD = 0.07) in shared and 1.51 (SD = 0.13) in separate households. This translates into 480,294 to 701,766 co-affected children in shared households (3.4% to 4.9% of Germany-residing minors) and 91,742 to 124,618 co-affected children in separate households (0.6% to 0.9% of Germany-residing minors).

Discussion and conclusions: Taking shared and separate households into account, one in 20 Germany-residing minors is co-affected by parental GD. Acknowledging that impaired psychosocial wellbeing in the context of parental GD could persist into adulthood of co-affected minors, this issue ought to be recognized as a major public health concern. To reduce related harm, children of people with GD should be best possibly integrated into the care process by offering additional help and support strategies explicitly addressed at this vulnerable population.

Key messages:

- Parental problem gambling significantly impacts a substantial portion of German minors, with approximately one in 20 being affected, highlighting the urgent need for attention to this issue.
- Recognizing parental gambling's long-term impact on minors, it's crucial to implement support strategies in care to address their needs effectively.

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Longitudinal analyses (2018-2022) of the COVID-19 impact on Swiss pediatric healthcare utilization

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Background: The impact of COVID-19 on healthcare utilization in the early pandemic is well documented. However, studies on changes in both primary and tertiary pediatric healthcare utilization that considered data beyond the first pandemic year is lacking.

Methods: National health insurance data (primary care) and pediatric emergency department data (tertiary care) from Jan. 2018 - June 2022 and on 0-18-year-olds were analyzed with interrupted time series. The first lockdown was used to differentiate between pre-pandemic and pandemic periods.

Results: Several healthcare services yielded significantly lower average utilization rates during the pandemic vs. the pre-pandemic period, particularly in the youngest age groups. In primary care, the relative utilization, compared to the pre-pandemic mean, dropped in regards to regular (0-5y: 0.760 [0.644-0.896]; 6-10y: 0.850 [0.742-0.974]), well-child (0-5y: 0.871 [0.765-0.992]), and urgent visits (0-5y: 0.638 [0.500-0.813]; 6-10y: 0.810 [0.665-0.985]), and for the vaccination against measles/mumps/rubella (MMR; 0-5y: 0.841 [0.729-0.971]). Similarly, in tertiary care, this pattern emerged for non-urgent (Zurich: 0.55 [0.482-0.627]; Geneva: 0.526 [0.435-0.636]; Ticino: 0.502 [0.436-0.578]) and urgent visits (Zurich: 0.573 [0.498-0.659]; Geneva: 0.487 [0.375-0.632]; Ticino: 0.676 [0.57-0.802]). The utilization rates of most services dropped markedly after the lockdown and recovered to some extent over the pandemic phase. However, no recovery was found for the MMR-vaccination. In primary care, higher average utilization rates during the pandemic were identified for telephone consultations (0-5y: 1.394 [1.218-1.594]; 6-10y: 1.547 [1.387-1.726]; 11-15y: 1.578 [1.430-1.741]; 16-18y: 1.831 [1.614-2.076]).

Conclusions: The pandemic's effect on utilization seemed to have occurred temporarily, but it cannot be ruled out that some children have not fully caught up on preventative measures (well-child visits and MMR-vaccinations).

Key messages:

- Pediatric healthcare utilization dropped considerably immediately after the lockdown, with the most pronounced decrease observed in the youngest children.
- The heterogenous recovery over the pandemic period points to the necessity to continue to monitor utilization rates, catch-up visits, and vaccination statistics.

Abstract citation ID: ckae144.1990
Generalised and visceral obesity metrics and ankle-brachial systolic blood pressures during pregnancy

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Background: Increased body mass index (BMI) (generalised obesity) and waist-to-height ratio (WHtR) (visceral obesity) are associated differently with brachial and ankle blood pressures in the general population. Ankle blood pressures are associated with blood glucose in pregnancy. This study investigates the relationship between BMI and WHtR with the brachial and ankle blood pressures separately during pregnancy.

Methods: Pregnant women were recruited during antenatal visits at an antenatal clinic in Bradford Royal Infirmary, UK, and their BMI, waist circumference, systolic, and diastolic blood pressure were clinically measured by staff in the second trimester. Additionally, blood pressure readings from both arms (left and right brachial arteries) and ankles [dorsalis pedis artery (DP) and posterior tibial artery (PT) on both sides] were obtained using Doppler by research staff.

Results: A total of 179 women participated, with an average BMI of 28.5 Kg/m2 (SD = 4.97) and average WHtR of 0.61 (SD = 0.08). BMI exhibited a positive correlation with all blood pressure measurements ($r = 0.165$ to 0.419, $p < 0.05$), while WHtR demonstrated significant correlations only with the right brachial, left PT, systolic and diastolic blood pressures (r: 0.170 to 0.271, $p < 0.05$). Moreover, BMI significantly associated with all blood pressure measurements in linear regression models, after adjusting for various sociodemographic and other factors, whereas WHtR significantly predicted only right brachial and left PT and some of the other blood pressure measurements.

Conclusions: BMI, and to a lesser extent WHtR, are associated with both brachial and ankle blood pressure measurements during pregnancy. These findings underscore the importance of recognizing the varying impacts of cardiometabolic risk factors for early detection and management of potential complications in pregnancy and the postpartum period.

Key messages:

- BMI & WHtR are associated differently with brachial and ankle blood pressures in pregnancy.
- Further exploration of combined non-invasive measurements like BMI, WHtR, brachial, and ankle blood pressures in early pregnancy for gestational diabetes mellitus and other co-morbidities is needed.

Abstract citation ID: ckae144.1991
Long-term effects of unintended pregnancies carried to term on mothers and children

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Background: Research on psychological effects of unintended pregnancies that are carried to term presents mixed results, and evidence on long-term associations is scarce. The aim of the current study was to examine effects of unintended pregnancies carried to term on both mothers and children, up to 16 years postpartum.

Methods: This study is based on the Dutch population-based birth cohort study 'Amsterdam Born Children and their Development' (ABCD-study), which included pregnant people in 2003 (n = 7784) and is still following these mothers and their children. Structural Equation Models were analyzed per time-point, examining associations between unintended pregnancy and maternal psychosocial distress, and children's internalizing- and externalizing problems, while controlling for co-occurring risks. Further, mediating effects via maternal mental health and bonding on children were assessed.

Results: Around 5 years postpartum, pregnancy mistiming was positively associated to maternal psychological distress. Antenatal psychological distress was a much stronger predictor of maternal psychological distress than unintended pregnancy. Pregnancy mistiming was a significant predictor of internalizing and externalizing problems and unwanted pregnancy of internalizing problems in the children from these pregnancies, around 5 years postpartum. These associations were mostly mediated by maternal mental health and poorer maternal bonding. All associations were no longer present at 12 and 16 years postpartum.

Conclusions: Unintended pregnancies often coincide with maternal mental health problems, and results showed that associations between unintended pregnancy and both mother's and children's psychosocial problems are strongly influenced by maternal mental health. Therefore it is important to improve maternal mental health for the benefit of both mother and child, rather than on the isolated effect of unintended pregnancy.

Key messages:

- Carrying an unintended pregnancy to term impacts psychological health in both mothers and their children up to 5 years but no longer at 12 or 16 years postpartum.
- The effects of unintended pregnancy on psychological health in mothers and children are mostly explained by maternal mental health and bonding, so the focus should be on improving these.

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Mixed-method study of women's experiences of Respectful-Disrespectful Maternity Care in Cyprus

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Background: Since the WHO reports on Disrespect and Abuse (D&A) in childbirth, there was an increase in studies across Europe exploring women's experiences. Even though contentious, a 2024 EU Committee report adopts the term obstetric violence. With the highest caesarean section (C/S) in the EU, the birth environment in Cyprus raises questions about informed choices.

Methods: The RESPECT mixed-method study gained insights into the experiences of women in Cyprus with focus groups ($N = 6$, 28 women) and survey (online and in-person) tapping on Rights for Respectful Maternity Care (RMC), as measured by Person-Centred Maternity Care scale (PCMC), autonomy in decision making (MADM), dignity and respect (MoRi) and mistreatment (MIST).

Results: Among 516 responses (61% first childbirth, 38.5% vaginal, 15% public sector, consistent with official statistics), the 35-item PCMC (range 0-100%) represents a continuum of quality standards deviations (Med=81, IQR=61-92). Lowest scores were recorded for "Communication & Autonomy", with 28.5% reporting 'feeling pushed into a decision', with associations observed with younger age, first-time birth, mode and place of birth, highlighting social inequity. Based on MADM, 23.8%, 14.1% and 14.7% women were classified as having moderate, low or very low autonomy. For mistreatment, 32.0% reported at least one of 11 indicators, most commonly privacy violations and no freedom of movement. Formula feeding against wishes (13.6%), vaginal examinations (11.6%) and episiotomy (7.8%) where most common among 33.7% reporting procedures without consent. Deductive content analysis of narratives according to RMC triangulate findings of weak shared decision-making processes.

Conclusions: Given that C/S reduction was identified as a national priority in Cyprus, the RESPECT findings can widen the conversation about quality improvement and form the basis to engage with local stakeholders in an open-dialogue about RMC, guided by participatory action research principles.

Key messages:

- In the medicalized birth environment of Cyprus, women report a range of sub-optimal practices, with ethical implications, primarily affecting the right to autonomy.
- Adopting the Respectful Maternity Care framework, the findings can stimulate and shape quality improvement efforts in a participatory and inclusive process with local stakeholders.

Abstract citation ID: ckae144.1993
Impact of Adverse Childhood Experiences on Child Development in South America: A Systematic Review

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Background: Adverse Childhood Experiences (ACEs) have garnered attention globally for their detrimental effects on children's development, such as lower communication, gross and fine motor, and personal-social domains. While extensively studied in high-income countries, there remains a gap in understanding their prevalence and impact in low- and middle-income countries (LMICs). This review aimed to identify, evaluate, and summarize the findings of an association between ACEs and children's developmental and mental health outcomes in South America

Methods: A systematic review was conducted to investigate the association between ACEs and childhood development in South America. Databases MEDLINE, PsycINFO, Web of Science, Applied Social Sciences Index and Abstracts, Literatura Latino Americana em Ciências da Saúde, IBECS and CINAHL were searched. Selection criteria encompassed studies from Brazil, Colombia, Argentina, Peru, Venezuela, Chile, Ecuador, Bolivia, Paraguay, Uruguay, Guyana and Suriname examining the effects of ACEs on developmental outcomes and mental health disorders in children under 18 years old. Quality assessment aligned with World Health Organization standards was employed.

Results: Twenty-four studies met the inclusion criteria, with most categorized as low or very low quality. While the majority demonstrated a significant association between ACEs and developmental or mental health outcomes, a few studies reported null findings. Challenges in study quality, such as small sample sizes and selection bias, were identified.

Conclusions: Despite limitations in study quality, findings underscore the impact of ACEs on child development and mental health in South America. Because of the low quality of the existent studies the next steps should be to grasp a greater understanding of the issue. This review also highlights the urgency for further research and targeted interventions to mitigate the long-term consequences of ACEs in this region.

Key messages:

- ACEs profoundly affect child development and mental health in South America, necessitating urgent attention and intervention.
- Addressing the impact of ACEs in South America is critical for fostering healthier developmental trajectories and enhancing public health outcomes.

Abstract citation ID: ckae144.1994
Using diversity, equity and inclusion school practices to mitigate child health inequities in Canada

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Background: The burden of unhealthy lifestyle behaviours and mental disorders disproportionately affects children in deprived neighbourhoods. In Canada, school practices addressing diversity, equity and inclusion (DEI) are promoted to address such inequities. We aimed to assess whether DEI school practices can help mitigate the impact of neighbourhood deprivation on children's lifestyle behaviours and mental health.

Methods: In 2023 we gathered survey data from 1497 grade 4-6 children (aged 9-12) in 22 elementary schools located in deprived neighbourhoods in Alberta, Canada. Children reported their diet, screen time, physical activity, and mental health. Principals reported on the implementation of DEI practices in schools (full vs. partial). School postal codes were used to derive tertiles of the Canadian Index of Multiple Deprivation, comprised of four dimensions that capture: 1) residential instability; 2) economic dependency; 3) ethno-cultural composition and 4) situational vulnerability of neighbourhoods.

Results: Overall, 45% of schools had fully implemented DEI practices. These schools were located in more deprived neighbourhoods for residential instability (55%), economic dependency (71%), ethno-cultural composition (60%), and situational vulnerability (64%). Children in more deprived neighbourhoods reported more sugar consumption, more screen time, and poorer mental health, compared to children in less deprived neighbourhoods. However, in those neighbourhoods where DEI practices were fully implemented, the adverse effects of neighbourhood deprivation were alleviated, whereby children reported less sugar consumption, less screen time, and better mental health.

Conclusions: The implementation of DEI school practices can help mitigate the adverse effects of neighbourhood deprivation on children's physical and mental health, particularly in deprived neighbourhoods.

Key messages:

- School practices targeting diversity, equity, and inclusion are more commonly implemented in schools located in deprived neighbourhoods.
- Diversity, equity, and inclusion school practices mitigate the adverse effects of neighbourhood deprivation on children's lifestyle behaviours and mental health.

Abstract citation ID: ckae144.1995
Covid-19 pandemic and student academic performance: a systematic review and meta-analysis

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Background: The COVID-19 pandemic led to widespread disruptions in educational systems globally, forcing a transition to remote learning modalities. This systemic change raised concerns about its potential impact on the academic performance of students in developmental ages. This systematic review and meta-analysis aimed to evaluate the association between the COVID-19 pandemic and academic performance among developmental-age students, quantifying the effect size using Cohen's d.

Methods: We searched PubMed/MEDLINE, Scopus, and Embase for studies published up to December 2023 that assessed the impact of the COVID-19 pandemic on academic performance. The review was performed following the PRISMA 2020 guidelines. The quality of the included studies was evaluated using the Newcastle-Ottawa Scale. The pooled effect size was calculated using Cohen's d, with its 95% confidence interval. The protocol has been registered in PROSPERO.

Results: Out of 3671 retrieved articles, 30 studies met the inclusion criteria, and 13 were suitable for meta-analysis, involving a combined total of 4,893,499 students. The Cohen's d was -0.07 (95% CI = -0.10 to -0.03; $p < 0.001$), indicating a small but statistically significant decline in academic performance associated with the pandemic. Subgroup analyses revealed that mathematics suffered the most significant impact, with a Cohen's d of -0.14 (95% CI = -0.18 to -0.10; $p < 0.001$). All the included studies were judged as moderate-high quality.

Conclusions: The COVID-19 pandemic has had a negative effect on the academic performance of students of developmental ages, particularly in mathematics. These findings highlight the need for targeted interventions to mitigate the educational setbacks caused by the pandemic, especially in core subjects where the decline in performance was most pronounced.

Key messages:

- The COVID-19 pandemic has significantly disrupted educational systems worldwide, resulting in a small but statistically significant decline in academic performance among students of developmental ages.
- The shift in educational delivery during the pandemic particularly affected learning outcomes in mathematics more than in other subjects.

Abstract citation ID: ckae144.1996
The influence of education on antenatal care and nutrition of newborns in Croatia

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Background: Previous studies indicate differences in the nutrition of newborns. Great efforts are invests in public health education of expectant mothers in order to improve the health of their offspring.

Methods: An analytical study of data on the influence of social factors and the level of education of mothers on the nutrition of newborns, habits of pregnant women and antenatal care in the City of Zagreb was conduct in 2022. The paper shows analytical results expressed in percentages of the prevalence and 95% confidence interval (CI).

Results: The survey covered 6,358 women giving birth in the City of Zagreb in 2022. Most mothers fed their newborns in the hospital with breast milk (48.6%) or a combination of breast milk and artificial nutrition (45.8%), and only 1.4% with artificial nutrition. The share of mothers who fed their newborns exclusively with breast milk is slightly higher among highly educated women (52.4%). The majority of women had their newborn's first feeding within one hour (81.4%), also more often in highly educated women. The first breastfeeding is most often ten (10.1%) or 15 minutes after birth (8.2%). Only 1.1% of pregnant women smoked during pregnancy, of which the largest share was women with a high school diploma (62.1%). With the increase in education, the share of women with 5 or less antenatal checks decreases (completed college 3.3%, higher school 4.6%, secondary school 6.6%, primary school 12.7%). The largest share of pregnant women who had their first antenatal examination only after 10 weeks of pregnancy is among women with a high school diploma (11.3%).

Conclusions: The education of pregnant women influenced their adoption of positive lifestyle habits, the need for timely and regular antenatal care and the benefits of feeding newborns with breast milk. Additional education through public health campaigns aimed at pregnant women and future parents as well as breastfeeding support groups need to be continuously implement.

Key messages:

- The education of pregnant women influenced their adoption of positive lifestyle habits, the need for timely and regular antenatal care and the benefits of feeding newborns with breast milk.
- Additional education through public health campaigns aimed at pregnant women and future parents as well as breastfeeding support groups need to be continuously implement.

Abstract citation ID: ckae144.1997
It must not be dangerous to talk about it! Parents views of communication with schoolnurses on weight

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Background: The study aimed to describe parents' experiences of communication with school nurses concerning the growth data and weight development of their children aged 8 and 10 years old in Sweden.

Methods: The design was descriptive and qualitative. 15 women and 3 men in south Sweden were included, with children who had performed health visits in the School Health Service (SHS). Data were collected through in - person semi structured interviews. Qualitative content analysis was used.

Results: The results illustrated the health visit's purpose as unclear with need for improved dialogue and lacking feedback from the SHS. "To be able to get guidelines of what is the normal growth and what is a normal deviation and maybe a bit more about diet and lifestyle and movement." The need for an improved channel for receiving information from SHS, and access to their child's growth data. "Couldn't they have a school nurse site or information page, where you get information about your child from the day they enroll in school until they leave." Parents experienced a lack of a child-centered perspective, described the child's context as not in focus, and desired collaboration. "I think that it is very important that children feel good in their bodies, and that is a really important task for health care."

Conclusions: (a) Initiating a discussion regarding the preventive health work of school nurses and the main assignment of SHS. (b) Development of a child-centered perspective towards parents and children with focus on the child's entire social context. (c) Implementation of evidence-based methods for communicating growth data and weight development between SHS and parents.

Key messages:

- An increased dialogue between parents and SHS was requested, with a reachable way of communication via a digital platform.
- A holistic view of the child, with positive professional attitudes seem essential to meet the needs of the child.

Abstract citation ID: ckae144.1998
Influence of socio-economic factors on obstetric morbidity in Eastern India: A study based on NFHS 5

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Background: Obstetric morbidity encompasses health issues related to pregnancy or childbirth, excluding accidental causes. The whole process of childbearing is not just a biological phenomenon, rather it is governed by personal, social, cultural, and institutional factors. The entire eastern region of India including the four provinces of Bihar, Jharkhand, Odisha, and West Bengal is susceptible to high maternal mortality and morbidity. It presents a strong background to further envisage the factors responsible for such situation. Thus, the study aims to explore regional variations and socio-economic factors associated with obstetric morbidity among women in eastern India.

Methods: This study uses data from the 2019-2021 National Family and Health Survey (NFHS 5). The explanatory variable, obstetric morbidity, includes issues during pregnancy and delivery- vision difficulties, bleeding, swelling, convulsions, fever, breech presentation, and prolonged labor. Predictor variables include age, age at marriage and first birth, wealth index, residence, toilet facility, caste, working status, media exposure, religion, birth order, and education level. Bivariate and binary logistic regression analyses have been used as a methodological tool.

Results: In the eastern region, 53.76% women experience obstetric issues. Women belonging to 15-24 years with higher educational attainment increases the prevalence of obstetric morbidity. The probable reason is, with education, awareness about reproductive morbidity increases and in turn the reporting for morbidity increases. Therefore, the findings showed age, educational attainment, wealth quintile, media exposure, residence, work status, birth order and toilet facilities are highly associated with obstetric morbidity among women.

Conclusions: Implementing of targeted interventions, and awareness campaigns are crucial to reducing obstetric complications and maternal mortality in the eastern region of India

Key messages:

- Socioeconomic correlates impact obstetric morbidity in eastern India in manifolds especially education, age, and wealth quintile of women in eastern India.
- Obstetric morbidity is a growing concern in eastern India, thus implementing targeted interventions and awareness campaigns are much needed.

Abstract citation ID: ckae144.1999
Factors associated with tobacco consumption during pregnancy in Portugal: a cross-sectional study

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Background: Tobacco consumption during pregnancy hinders mother and foetus health. Previous studies in Portugal have attempted to assess tobacco consumption and its associated factors; but none have studied representative samples.

Objectives: We aimed to estimate the prevalence of tobacco consumption during pregnancy in Portugal, and to determine sociodemographic, economic and healthcare access associated factors.

Methods: We performed a cross-sectional study using 2019 National Health Survey data. Women reporting a pregnancy between 2010 and 2019 were included. The outcome was daily or occasional tobacco consumption during pregnancy. Exposure variables were age group, nationality, marital status, region of residence, educational level, occupation/professional area, social support, net monthly income, and pregnancy trimester in the first surveillance appointment. Populational prevalence of tobacco consumption, and crude (PR) and adjusted prevalence ratios (aPR) with 95% confidence intervals (95%CI) were obtained using Poisson regression.

Results: Prevalence was 8.1% (95%CI: 5.6-11.4) (n = 744). PR was higher in young (PR: 1.4, 95%CI: 0.7-2.8), Portuguese (PR: 4.2, 95%CI: 1.1-16.4), single (PR: 1.6, 95%CI: 0.7-4.0) pregnant women, living in Azores (PR: 2.9, 95%CI: 1.0-7.9), with the 9th grade (PR: 4.9, 95%CI: 1.8-13.9), manual job (PR: 4.2, 95%CI: 1.2-14.2), weak social support (PR: 3.3, 95%CI: 1.3-8.7), 3rd income quintile (PR: 4.5, 95%CI: 1.0-19.9), 2nd or 3rd trimester appointment (PR: 2.1, 95%CI: 0.8-6.0). aPR was higher in pregnant women with the 9th grade (aPR: 4.7, 95%CI: 1.7-13.4) or high school (aPR: 4.0, 95%CI: 1.5-10.8) and weak social support (aPR: 2.9, 95%CI: 1.2-6.6).

Conclusions: The prevalence of tobacco consumption during pregnancy in Portugal was comparable to the European Region. Portuguese pregnant women, with less than tertiary education, and weak social support showed higher prevalences.

Key messages:

- The prevalence of tobacco consumption during pregnancy in Portugal was 8.1%. Pregnant women with less than tertiary education, and weak social support showed higher prevalences of tobacco consumption.
- Overall, smoking is more prevalent in socioeconomically disadvantaged pregnant women thus contributing to increased health inequities.

Abstract citation ID: ckae144.2000

Inequalities in preterm birth by deprivation and ethnicity: A national cohort study in England

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Background: Preterm birth has decreased in the UK; however, the extent of inequalities remains unclear. This study aimed to quantify socioeconomic and ethnic inequalities in preterm birth rates using routinely collected maternity data in England.

Methods: Retrospective analysis of cohort data from the NHS England Hospital Episode Statistics (HES). All women aged 13-55 with a singleton livebirth (April 2018 to March 2021) at 24-42 weeks were included. Multivariate Poisson regression was used to estimate the rate of preterm birth (livebirth between 24 + 0 and 36 + 6 weeks') for each ethnic and deprivation postcode group, these were compared to white women from the least deprived 20% of areas. We iteratively developed the model, adjusting for covariates associated with preterm birth. A post-hoc calculation identified the rate of preterm birth for each ethnic group at each level of deprivation.

Results: We identified 1,111,045 livebirths between April 2018 and March 2021. The rate of preterm birth increased with socioeconomic deprivation and was highest at 7.1% per 100 livebirths (95%CI:7.00-7.20) in women living in the 20% most deprived areas, compared to 5.6% (95%CI:5.50-5.74) in women in the 20% least deprived areas. White women had the lowest preterm birth rate at 6.5% (95%CI:6.47-6.58) and South Asian women had the highest rate at 6.9% (95%CI:6.76-7.04) (Table 2). The rate of preterm birth increased according to increased area-level deprivation across all ethnic groups. In areas of high deprivation, the preterm birth rate was similar across ethnic groups. Whereas in less deprived areas, there were marked inequalities between ethnic groups.

Conclusions: Inequalities in preterm birth remain, despite overall decreases in preterm birth. We found area deprivation and individual ethnicity interact to increase the risk of preterm birth in marginalized communities. Interventions need to holistically consider the structural and socioenvironmental determinants of preterm birth.

Key messages:

- Area deprivation and ethnicity remain key drivers of inequalities in preterm birth, despite overall decreases in preterm birth.
- To reduce inequalities tailored prevention strategies are needed to address socioenvironmental and structural determinants of preterm birth in high deprivation areas and minoritized ethnicity groups.

Abstract citation ID: ckae144.2002

Correlation between vaccine hesitancy, vaccine reliability and perceptions of infectious diseases

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Background: Vaccine hesitancy is a delay in vaccine acceptance or refusal despite the availability of vaccination services. In recent years, the rise in vaccine hesitancy has attracted attention. This study aimed to evaluate the perception of vaccine hesitancy, vaccine safety, and infectious diseases among parents.

Methods: This cross-sectional study was conducted with 503 parents who applied to the pediatrics outpatient clinic of a university hospital. The questionnaire used in the study included questions on sociodemographic characteristics, factors related to vaccine hesitancy, The Vaccine Hesitancy Scale (VAS), the Vaccine Safety Scale (VSS), and the Perception Scale for Infectious Diseases (PPSID). Multivariate Linear Regression Analysis was used to find the variables associated with vaccine hesitancy.

Results: The mean age of the parents was 37.6±7.6 years. Parents' scores on the ATS ranged from 17-85, with a mean score of 20.1±6.6 points. A moderate negative correlation was found between parents' VAS and VSS scores, and between VAS and PPSID scores ($r=-0.412$, $p < 0.001$; $r=-0.409$, $p < 0.001$, respectively). According to the multivariate linear regression analysis the variables found to be associated with vaccine hesitancy, income status, maternal education level, child's age group, having information about childhood vaccination schedule, child's immunization status, the necessity of childhood vaccines, having sufficient information about the safety of vaccines, vaccine safety level, and infectious disease perception level were found to be significant predictors of vaccine hesitancy (F: 12,844, $p \leq 0.001$, R2: 0.334).

Conclusions: This study determined that vaccine hesitancy was higher in families with lower income, who have not completed the schedule nor been vaccinated, doubt the necessity of vaccines to prevent infectious diseases, lack of knowledge about the reliability of vaccines, and whose children are still in primary school.

Key messages:

- Health professionals have a critical role in reducing vaccine hesitancy.
- It would be appropriate to plan face-to-face or online programs with parents.

Abstract citation ID: ckae144.2003

Physical fitness in youth: a systematic review of changes during and after the COVID-19 pandemic

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Background: Restrictions during the COVID-19 pandemic induced changes in the fitness behavior of children and adolescents, which may be associated with long-term public health challenges. This systematic review analyses how physical fitness has changed during the pandemic and to what extent the changes remain in the aftermath of the pandemic.

Methods: We conducted a systematic search in seven databases with a peer-reviewed search string for studies until Dec 2023. Our inclusion criteria encompassed studies with children and adolescents ≤ 19 years living in the WHO European Region and in which validated measurements were used (single measurements or test batteries). Eligibility screening, data extraction and risk of bias assessment (using ROBINS-E instrument) were all carried out independently by two reviewers. We published an a priori protocol in a peer-review journal and conducted reporting in accordance with the PRISMA 2020 statement. Trial registration: PROSPERO: CRD42023395871.

Results: Our search retrieved 28 studies from 15 WHO European Region countries with an age range from 5 to 19 years. Physical fitness was reported in 21 validated single measurements (e.g. 20 m shuttle run, handgrip strength, standing long jump) and 9 validated test batteries (e.g. Alpha-Fitness Battery, German Motor Test, International Physical Performance Test Profile). The preliminary analyses pointed to a sharp decline in youth physical fitness during the COVID-19 pandemic. After restrictions were eased, physical fitness improved, but remained under pre-pandemic levels, particularly in boys.

Conclusions: The findings indicate a potential suboptimal behavioral adaptation of children and adolescents after the COVID-19 pandemic. Medium and long-term programs to change passive behavior and improve physical fitness are urgently needed. In addition to individual prevention programs, stronger consideration should also be given to schools and sport clubs regarding activities promoting physical fitness.

Key messages:

- Physical fitness in children and adolescents remains below pre-pandemic levels after restrictions removal.
- Initiating immediate public health action to increase physical fitness is urgently needed.

Abstract citation ID: ckae144.2004

Socioeconomic inequalities in substance use among Norwegian adolescents between 2014 and 2022

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Background: Increasing use of substances is observed among adolescents in recent years. Early onset of substance use dramatically increases the risk of substance use disorder, dependence, and poorer psychological, social, and physical health, and is thus a public health concern. We explore trends in socioeconomic inequalities in past year use of cannabis and other illicit drugs between 2014 and 2022 among Norwegian adolescents.

Methods: This study is based on data retrieved from five waves of the nationwide Norwegian Ungdata survey (2014-2022) among adolescents attending upper secondary education (N = 282,259; 51 % girls). Trends in socioeconomic inequalities were assessed using the Slope Index of Inequality (SII) and the Relative Index of Inequality (RII).

Results: The use of cannabis and other illicit drugs increased among boys (from 13% to 19%, and from 2% to 5%, respectively) and girls (from 8% to 14%, and from 1% to 3%, respectively) between 2014 and 2022. Higher prevalence's was observed among the least affluence girls between 2020 and 2022, both in absolute and relative terms (SII: 0.01 to 0.06, RII: 0.97 to 1.52, $p < 0.001$). No inequalities were observed among boys during this time. While relative and absolute inequalities in use of other illicit drugs decreased in boys, absolute inequalities increased in girls. Boys were more likely than girls to have used cannabis and other illicit drugs, although the gender gap in cannabis use narrowed slightly during the study period.

Conclusions: Our data suggest increasing use of cannabis and other illicit drugs among Norwegian adolescent boys and girls between 2014 and 2022. Future studies should examine the potential causes of increasing substance use as a basis for understanding, and distinguishing between, the many intertwining factors that influence adolescent drug use behaviors.

Key messages:

- The use of cannabis and other illicit drugs increased between 2014 and 2022 among Norwegian boys and girls.
- While inequalities in the use of cannabis and ither illicit drug use increased in girls, small or no inequalities was observed among boys.

Abstract citation ID: ckae144.2005
Is there a maximum transfer time for safe planned home births? Building evidence to

Ciara Carroll

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Evidence-based assessment of suitability for planned home birth (PHB) is a critical component of safe, effective home birth services. This study aimed to build an evidence base to inform transfer time recommendations for the Health Service Executive (HSE) Home Birth Service in Ireland. Transfer rates, time and distance were described for women who began labour at home with the HSE Home Birth Service between 2012 and 2021. Binary logistic regression was used to identify factors associated with intrapartum transfer and to examine the relationship between transfer time and outcomes. A survey on home birth policy and practice was issued to informants in countries offering comparable services to the HSE. Of 2,000 women initiating labour at home, 376 (18.9%) required intrapartum transfer, with transfer rates of 48.2% and 10.1% for primiparous and multiparous women, respectively. Primiparity (aOR: 8.95, 95% CI 6.89-11.7, $p < 0.001$) and maternal body mass index ≥ 30 (aOR: 1.93, 95% CI 1.14-3.20, $p = 0.013$) significantly increased the odds of intrapartum transfer. Serious adverse outcomes were rare in those requiring intrapartum transfer. No statistically significant increase in poor outcomes was detected with increasing transfer time; however, statistical power to detect small but important effects was limited. In other home birth services, transfer time is explicitly considered when assessing suitability; information provided to women includes details on transfer rates and times. While this study did not find a threshold time associated with increased risk of adverse outcomes for PHB, it has highlighted the significance of transfer time in shared decision-making on birthplace. Women considering PHB should receive parity-specific information on outcomes including transfer rates. This work highlights the pivotal role of Public Health in ensuring that evidence is combined with expert judgement and womens' preferences to provide high quality, accessible, person-centred services.

Key messages:

- Transfer time plays a key role in supporting shared decision-making for women considering a home birth.
- This study identified opportunities to extend the comprehensiveness of assessment of suitability for planned home births using local and international evidence.

Abstract citation ID: ckae144.2006
Online Forum Conversations on Abortion in Poland: Navigating Medical, Emotional, and Legal Challenges

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Background: Abortion is a common medical procedure worldwide, but access is restricted in Poland, forcing many women to seek abortions without medical supervision. This can lead to health risks and reflects broader challenges regarding reproductive rights and healthcare.

Methods: We conducted a qualitative and quantitative analysis of online forums discussing abortion to understand the challenges faced by women in Poland. Data was gathered from popular abortion forums identified through Google searches, with a pilot study refining the research focus.

Results: A total of 13,397 responses from 370 threads across 4 forums were analyzed. The most prevalent theme was the 'Abortion Process Progression,' indicating a strong need for information and support. Discussions on 'Emotional and Psychological Aspects' and 'Medical and Pharmacological Aspects' highlighted the need for holistic care. This suggests that legal restrictions and fear of repercussions hinder women's access to professional assistance, exacerbating health disparities and inequalities.

Conclusions: This study offers a general look at the abortion experiences of Polish women, revealing challenges that often go unnoticed by policymakers and healthcare professionals. By analyzing online forums, it uncovers nuanced issues such as the lack of access to medical supervision, information gaps, and emotional support, highlighting discrepancies between policy and needs. The findings call for decriminalizing abortion, launching educational campaigns to combat misinformation, and strengthening support systems, aligning Poland's reproductive health services with European Union standards, ensuring women's access to safe and supportive healthcare.

Key messages:

- This study shows how Poland's restrictive abortion laws push women to online forums, revealing medical, emotional, and logistical challenges, emphasizing the need for care and accurate information.
- The research highlights the need for decriminalizing abortion, addressing misinformation, and support Poland's reproductive health services with EU standards, ensuring safer care for women.

Abstract citation ID: ckae144.2007
Inequalities in education in the COVID-19 pandemic: health and education professionals' perspectives

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Background: Cycles of school closure and reopening during the COVID-19 pandemic, coupled with remote learning, led to concerns about increasing inequality in education that persist in 2024. The aim of this abstract, within a wider study of safe school reopening, is to explore health and education professionals' perceptions of inequalities among students during the pandemic.

Methods: In 2021, online semi-structured interviews were conducted in 6 languages with education and health professionals. They explored the: 1-effect of the pandemic on schools/pupils/teachers; 2-reorganisation of schools; 3-experience of implementing infection control measures in schools; 4-intersectoral working; 5-important resources for keeping schools open. Interviews were transcribed verbatim and translated into English where needed. A deductive qualitative analysis was undertaken using the conceptual framework developed by the United Nations H6+ Technical Working Group on Adolescent Health and Well-Being. Domain 3 (safety and supportive environment) includes consideration of equality.

Results: 62 interviews were included in the analysis (22 health and 40 education professionals from 28 countries). Professionals perceived greater negative impact on education for specific groups of students. Those with chronic illness stayed out of school for longer than others. Good access to distance learning was difficult for students from rural areas (lack of internet/electricity), disadvantaged families (lack of electronic equipment) or larger families (less learning space at home).

Conclusions: Professionals perceived that school closures intensified the disadvantage experienced by certain groups of students, exacerbating inequalities in education. Targeted catch-up strategies are still needed.

Key messages:

- School closure during the COVID-19 pandemic have exacerbated inequalities in education.
- In future health crisis impacting schooling, targeted catch-up strategies would be needed for certain groups of students.

Abstract citation ID: ckae144.2008
National survey to estimate seroprevalence for toxoplasmosis among pregnant women in France, 2021

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Background: Toxoplasmosis during pregnancy can result in congenital malformations and fetal death. In France, universal antenatal screening and monthly re-testing of seronegative pregnant women has been established since the 1970s. However, decreasing Toxoplasma gondii seroprevalence among pregnant women and lower incidence of congenital toxoplasmosis may challenge the cost-effectiveness of such programs. The aim of this study was to estimate the current seroprevalence among pregnant women participating in the 2021 national perinatal survey (ENP).

Methods: All adult women giving birth in France between 15-21 March 2021 were invited to participate in the ENP. Data collected included demographic information, nationality, socio-economic status, education level and Toxoplasma gondii serology. We classified a woman as seropositive if she had IgG antibodies prior to pregnancy or seroconverted during it. Univariable and multivariable regression analyses using Poisson model were conducted to estimate prevalence ratios (PRs) and identify significant factors associated with seropositivity.

Results: Among the 15,605 participating women, 0.22% seroconverted during pregnancy. The overall seroprevalence was 25.95%. Seropositivity was higher with increasing age (~5% per 5 years), among residents of French overseas territories Guadeloupe/Saint Martin (PRs:1.07; 95%-CI: 1.03-1.10), La Réunion (PRs:1.10; 95%-CI: 1.08-1.13) and Mayotte (PRs:1.27; 95%-CI: 1.23-1.31), with lower education (PRs:1.22; 95%-CI: 1.04-1.42) and African nationality (PRs:1.11; 95%-CI: 1.02-1.20).

Conclusions: High seroprevalence for Toxoplasma gondii was found in older women, which may reflect their higher risk of past exposure. The observed geographical differences in seroprevalence may mirror dietary and environmental diversity. Declining seroprevalence among pregnant women in France can affect screening effectiveness and warrants a comprehensive review to determine appropriate future prevention strategies.

Key messages:

- Older women and residents of French overseas territories show higher toxoplasmosis seroprevalence, possibly due to past exposure risks and diverse diets/environments.
- Declining toxoplasmosis seroprevalence among pregnant women in France can affect screening effectiveness and warrants a comprehensive review to determine appropriate future prevention strategies.

Abstract citation ID: ckae144.2009
Reduction of screen induced myopia by parental interventions

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Background: Excessive use of digital devices, including smartphones and tablets, has been shown to increase the risk of myopia in children. Gaps persist in understanding parental attitudes towards handheld screen use and effective interventions guiding eye health policies. This study examined the associations between parental behavior related to myopia and children's handheld screen use.

Methods: Data obtained from 395 parents of pre-adolescents (Mean age 10.63; SD 1.09) were used, collected from an online community panel. Parents reported on various behavioral determinants related to myopia and their child's screen time: knowledge, attitude, risk perception and self-efficacy. They reported on their child's frequency and amount of screen use. Logistic regression analysis was used to assess associations between variables, using parental efforts to reduce screens as outcome measure.

Results: Of the 395 participating 9-12 year-olds, 73.4% of the children spent up to two hours a day on recreational handheld screens, 26% more than two hours. Of the parents surveyed, 28.1% perceived the risk of screen-induced myopia as significant, prompting 62.6% of them to take active measures to minimize screen time. The more knowledge parents had on child myopia the more they attempted to reduce screen time (OR = 2.57; 95% CI [1.57-4.19], p = <.001). Moreover, a more negative attitude towards screens was significantly related to attempting to reduce screen time (OR = 1.26; 95% CI [1.17-1.35],p = <.001).

Key messages:

- These findings emphasize a need to address parental knowledge and attitude towards myopia and screen time reduction.
- We recommend increasing knowledge, influencing attitude and searching for alternatives as a part of behavioral change strategies.

Abstract citation ID: ckae144.2010
The association between screen use, psychological distress and sleep among adolescents in Norway

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Background: Today's adolescents dedicate a significant portion of their time to screens. Concerns have arisen regarding the lasting impact of screen use on adolescent health, making it a crucial public health topic. Previous studies have presented both positive and negative outcomes associated with screen use. Further insight is required into various forms of screen use and the influence on adolescent health. The objective of this study is to examine the relationship between gaming, social media use, psychological distress, and sleep among adolescents.

Methods: This study is based on cross-sectional data from the Ung-HUNT4-study, a health study conducted among adolescents 13-19 years old in Trøndelag municipality in Norway from 2017-2019 (n = 8066). Binomial logistic regression was used to analyse the association between gaming, social media, psychological distress and sleep. Analysis was controlled for gender, age, family economy and having friends.

Results: Preliminary results showed that the odds for having psychological distress were higher for those who spent more than 3 hours on social media after school (OR: 1.31, 95% CI: 1.10-1.57), and on weekends (OR: 1.45, 95% Cl: 1.22 - 1.73), and on gaming in weekends (OR:1.30 Cl: 1.08-1.55) compared to those who spent 3 hours and less. The odds for sleeping < 8 hours per day on weekdays were higher for those who spent more than 3 hours on gaming after school (OR: 1.27 Cl:1.07-1.52), and more than 3 hours on social media after school, (OR:1.41 Cl:1.20-1.67) or on weekends (OR:1.39 Cl: 1.19-1.62), compared to those who spent 3 hours or less.

Conclusions: More than 3 hours spent on social media after school and on weekends was associated with significantly higher odds for psychological distress and less sleep on weekdays. More knowledge about the impact of different types of screen use on adolescents' health is needed, and new public health strategies to secure safe screen use should be developed.

Key messages:

- Screen use is associated with psychological distress and less sleep.
- Awareness on various types of screen use and its influence on health in adolescence, is important in public health policy and practice.

Abstract citation ID: ckae144.2011
Antibiotic use in the first 1000 days and maternal-infant outcomes: results from the MAMI-MED cohort

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Introduction: Antibiotic use within the initial thousand days of life could potentially lead to a range of negative health outcomes for both mothers and infants. This study seeks to identify the primary factors influencing antibiotic use and examine the associations with adverse neonatal outcomes, specifically focusing on neonatal intensive care unit (NICU) admissions.

Methods: Data were gathered from pregnant women and their offspring enrolled in the 'MAMI-MED' study at ARNAS Garibaldi Nesima in Catania (Italy), from December 2020 to January 2024. Information regarding antibiotic exposure and maternal-infant health outcomes was collected through follow-up questionnaires administered at birth, one year, and two years postpartum.

Results: Among 1492 women (average age: 31 years) included in the study, 20.4% reported using antibiotics during pregnancy. The mean age of antibiotic users during pregnancy was significantly higher compared to non-users (p = 0.008). Among the 304 women who used antibiotics during pregnancy, 45.5% did so during the third trimester, 41.4% during the second trimester, and 13.1% during the first trimester. Furthermore, 47.1% of women reported antibiotic use at delivery or postpartum. Of the 904 children studied, 63% were administered at least one antibiotic between birth and the first year of age. A greater proportion of newborns admitted to the NICU were born to mothers who used antibiotics during the second trimester of pregnancy compared to those who used antibiotics during other trimesters (p = 0.013).

Conclusions: Comprehensive research is needed to delve deeper into the intricate factors influencing maternal antibiotic use. This should thoroughly explore socio-demographic variables, such as income level, education, and access to healthcare. Understanding these multifaceted influences can provide valuable insights into designing tailored public health interventions aimed at promoting prudent antibiotic use during pregnancy.

Key messages:

- Different factors influence maternal antibiotic use.
- Tailored public health interventions aimed at promoting prudent antibiotic use during pregnancy are needed.

Abstract citation ID: ckae144.2012
Epidemiology of obesity during pregnancy in Europe: a systematic review

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Background: Obesity during pregnancy poses inter-generational health risks and places added burden on healthcare systems. Characterising levels of obesity during pregnancy is necessary to guide future research, policy and practice.

Methods: The systematic review was performed according to PRISMA guidelines. PubMed, Embase and Web of Science were searched. Studies published between 2009 and 2023 that report the prevalence of obesity during pregnancy in countries in the World Health Organization (WHO) European region were eligible. The Joanna Briggs Institute Prevalence Critical Appraisal tool was used. Two reviewers screened studies independently. A single reviewer completed data extraction and quality assessments, a second checked 20% of extractions and a third resolved disagreements. Narrative synthesis was completed.

Results: 100 studies reporting the prevalence of obesity during pregnancy in the WHO European region were identified. 59% from Western Europe, 36% Northern, 4% Southern and 1% Eastern. Data within the studies was collected between 1950 and 2019. 35% of studies reported national estimates, 65% regional. 39% studies had measured height and weight, 34% did not report how either were ascertained, 6% used self-report for both, 17% had self-reported height but measured weight, 4% a mixture of self-report and measurement. The smallest sample was 157 while the largest was 1,891,097. Estimated prevalence of obesity during pregnancy ranged from 2.3% (Sweden, data collected 1982-1989) to 28.3% (England, 2007).

Conclusions: This review identifies variation in the prevalence of obesity during pregnancy in the WHO European region. This may reflect diverse sociocultural contexts, different methodological approaches and temporal trends. There was limited evidence available for Southern and Eastern Europe.

Key messages:

- There are high levels of obesity during pregnancy within the WHO European region.
- Enhanced primary prevention and resourcing of obstetric services is needed.

Abstract citation ID: ckae144.2013
Influenza and COVID-19 vaccines in pregnancy: investigation on associated factors and HAPA theory

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Background: Infections caused by influenza and COVID-19 during pregnancy represent a current public health problem as there are multiple populations at risk of complications: pregnant women, fetus, and future unborn children. The anatomical and physiological remodulation characteristic of pregnancy is responsible for the high pathological burden related to respiratory infections. Co-administration of influenza and COVID-19 vaccines may be beneficial because these two respiratory viruses cocirculate during cold weather. The need to explore pregnant women's attitudes toward co-administration of influenza and COVID-19 vaccines and to evaluate factors associated with vaccine decision-making led to the conduct of this study.

Methods: In Palermo, Italy, during the 2021-2022 influenza season, a cross-sectional study was conducted to evaluate pregnant women's intention to adhere to co-administration of influenza and COVID-19 vaccines. The determinants of vaccination attitudes were investigated through the administration of a questionnaire. The Health Action Process Approach theory (HAPA) was adopted to explore the cognitive behavioral aspects.

Results: Overall, 120 pregnant women were enrolled; average age 32 years, 98.2% ($n = 118$) of Italian nationality and 25.2% ($n = 30$) with obstetric or pathological conditions of pregnancy at risk. Factors significantly associated with attitudes toward co-administration of influenza and COVID-19 vaccines among pregnant women were: high level of education ($OR = 13.96$; $p < 0.001$), expectations of a positive outcome ($OR = 2.84$; $p < 0.001$) and self-efficacy ($OR = 3.1$; $p < 0.001$).

Conclusions: Vaccines co-administration could represent an advantageous preventive practice to facilitate vaccination logistics and allow full adherence to vaccinations recommended to pregnant women. Effective strategies to promote co-administration of influenza and COVID-19 vaccines could be focused on counselling about the expectation of positive outcomes of vaccine co-administration.

Key messages:

- The need to explore pregnant women's attitudes toward co-administration of influenza and COVID-19 vaccines and to evaluate determinants of vaccine decision-making led to the conduct of this study.
- Vaccines co-administration could represent an advantageous preventive practice to facilitate vaccination logistics and allow full adherence to vaccinations recommended to pregnant women.

Abstract citation ID: ckae144.2014
The role and needs of teachers/schools in infection, prevention and control post covid-19

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Introduction: COVID-19 highlighted the importance of infection prevention and control (IPC) across all settings. As children are important transmitters of infection, teachers and schools play an important role in infection prevention. The aim of this study is to understand attitudes towards, and knowledge of IPC in schools post-Covid, and highlight any gaps in the training and resources needed.

Methods: An online survey of 1000 primary and secondary school teachers was carried out across England. Pearson's chi-squared test, corrected for survey design, was used to test for differences in proportions across levels of categorical variables. Two qualitative workshops with eight head teachers were carried out to gather more in-depth information.

Results: 1000 teachers completed the survey across a range of teaching roles. Respondents reported that IPC measures are now less frequently implemented than during the pandemic. 71% of respondents say their role has changed since the pandemic, now having more responsibility for pupil health and hygiene; higher in primary versus secondary school teachers (31% v 25%; $p < 0.05$). 1/3 felt this change was permanent; 84% had no IPC training. Knowledge gaps were identified in the areas of IPC roles within schools, and IPC measures. 72% teachers claim they feel better prepared to deal with a public health outbreak compared to pre-pandemic, although 22% do not have an updated IPC policy; 35% had unmet needs.

Conclusions: Schools and teachers play a pivotal role in preventing the spread of communicable disease, highlighted during the COVID-19 pandemic. Teachers need, and more importantly want, more IPC training. Training and updated policies would support the educational workforce who feel their needs are not being met. Providing more streamlined, consistent, clear and concise information from trusted sources is required.

Key messages:

- It is imperative to understand educators' role in IPC in schools as they are key players in supporting local and national efforts to reduce the spread of infections.

- Teachers desire further training with comprehensive information, and up-to-date policies to support their infection prevention and control efforts in educational settings.

Abstract citation ID: ckae144.2015
Risk factors for the gambling, smoking and alcohol consumption triad in Portuguese adolescents

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Background: Addiction to gambling, tobacco, and alcohol poses significant risks to mental, social, and physical health, particularly during adolescence, a critical period for habit formation. This study investigates risk factors linked to these habits among Portuguese adolescents.

Methods: This cross-sectional study used the 2019 ESPAD questionnaire, targeting 16-year-old adolescents. The sample comprised 4,365 responses. Descriptive analysis determined the prevalence of gambling, smoking, and alcohol use, as well as social, economic, and behavioral factors. Bivariate associations were assessed using the Exact Fisher test, and multiple logistic regression identified key predictors for the outcome of interest (cumulative presence of gambling, smoking and alcohol consumption). Statistical analysis was conducted with SPSS version 29.0, with a significance level of $p < 0.05$.

Results: Among adolescents, 6.2% presented probable problematic gambling according to the Lie/Bet test, with 3.7% spending at least 30 minutes a day gambling. In the past 30 days, 14.3% smoked, 42.7% drank alcohol, and 10.5% engaged in binge drinking. The behavioral triad was observed in 56 individuals. Male gender (OR = 2.024; 95% CI: 1.097-3.734; p = 0.024), problematic online gaming behavior (OR = 2.041; 95% CI: 1.005-4.144; p = 0.048) and going out at night at least once a week (OR = 1.439; 95% CI: 1.242-1.669; $p < 0.001$) significantly increased the risk of the behavioral triad. In contrast, parental control (parents knowing where the adolescent is on Saturday night) had a significant protective effect (OR = 0.162; 95% CI: 0.086-0.303; $p < 0.001$).

Conclusions: The study underscores the importance of parental supervision to curb risky behaviors in adolescents. It suggests implementing public health programs in schools, leveraging gaming for early screening, and tightening online gambling regulations to mitigate future health risks associated with gambling, smoking, and alcohol use.

Key messages:

- Absence of parental supervision, male gender, problematic online gaming and frequently going out at night are risk factors for this behavioral triad.
- Public health strategies are needed to prevent gambling addiction, emphasizing parental awareness, identification of at-risk students, and comprehensive school-based approaches.

Abstract citation ID: ckae144.2016
Sociodemographic and lifestyle correlates of energy drinks consumption in Serbian adolescents

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Background and aim: Energy drinks (EDs) are non-alcoholic beverages that typically contain high levels of caffeine and sugar in combination with other ingredients known to have stimulant properties. Although there is growing evidence of the harmful physiological and psychological effects of energy drinks their popularity has increased during the past decade. While researchers point out variety of health consequences, data on prevalence and correlates of EDs consumption are scarce. Aim of the study was to determine prevalence of EDs consumption and to investigate sociodemographic and lifestyle correlates of EDs consumption among adolescents in Serbia.

Study design: Secondary analysis of data obtained from 2022 Health Behaviour in School-aged Children Study (HBSC) in Serbia. Study included 3962 students aged 11, 13 and 15 years. Students with missing values for one or more study variables were excluded from the analyses.

Methods: Multiple logistic analyses stratified by age and sex were performed to estimate the associations between consuming EDs and sociodemographic and lifestyle characteristics.

Results: Overall, 15.6% of students consumed EDs more than once a week (16.2% of boys and 15.5% of girls) with highest percentage among 15-year-old students (20.3%). For both genders, the percentage of adolescents consuming ED more than once a week was higher among adolescents with lowest family affluence (21.9%), those consuming soft drinks daily (39.5%) and alcohol weekly (47.6%). In boys only, consuming ED several times a week was more frequent among adolescents having at least 60 min moderate-to-vigorous physical activity (MVPA) daily than among those with lower levels of MVPA.

Conclusions: Different patterns of ED consumption were identified suggesting need for tailored interventions aimed at reducing ED consumption in adolescents.

Key messages:

- Every fifth h 15-year-old student in Serbia consume EDs more than once a week.
- Higher EDs consumption among physically active boys indicate need for targeting interventions that will address this issue.

Abstract citation ID: ckae144.2017
Mental health benefit uptake of women before and during the perinatal period in Austria

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One in five women may experience a perinatal mental illness (PMI) during pregnancy and up to one year after giving birth, during the so-called perinatal period. Although there is strong evidence that this can have a negative effect on the children's future health, many mothers do not receive any treatment. To determine whether and what type of mental health services women in Austria claim during the perinatal period, the uptake of five key mental health insurance benefits was analysed using pseudonymised health insurance data from Austria's largest insurance, ÖGK. In 2017 and 2018, 131,025 ÖGK insured women gave birth, representing 80% of all births in Austria in the two years. Of these women, almost 20% claimed at least one benefit during the perinatal period. Including the year before pregnancy this number increased to 25%. Most often, only one benefit was claimed in only one of the analysed periods (the year before pregnancy, pregnancy, and the year after birth). Psychotherapy was claimed most often, while hospital admissions occurred the least. Further, the youngest ($\leq$ 20 years) and the oldest ($\geq$ 41 years) women claimed benefits more frequently than at other ages. After adjustment for the shorter pregnancy period, benefit uptake was generally highest during pregnancy and lowest after giving birth. Considering the shortage of specialised perinatal mental health services in Austria, the uptake of the five analysed types of services was high and corresponds to international prevalence figures on PMI. The actual number may be even higher, considering the services and the women not covered in the available data. As there is a lack of a perinatal mental health infrastructure and specialised healthcare staff in Austria, this warrants further investigations into the quality of care provided to the women and more training and education concerning mental problems occurring during the perinatal period.

Key messages:

- Around a quarter of women claim mental health benefits during the perinatal period, most often psychotherapy services.
- Substantial demand for mental health services during the perinatal period calls for comprehensive infrastructure and quality assessments of available options.

Abstract citation ID: ckae144.2018
An evaluation over time: Dipsalut's "Program for families"

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Issue: Dipsalut's "Program for Families" is a parental skills and positive parenting program aimed at all fathers, mothers, and other adult caregivers of children aged 3 to 12 in the province of Girona, Spain. The Program is based on the Convention on the Rights of the Child (1989), which recommends that states promote programs that develop parenting styles that respect children's rights to be heard and recognized. Research supports that offering parenting skills to parents contributes to the child's well-being throughout the growth stage.

Description: The program began in 2018 in a pilot phase that lasted until 2019, when the first evaluation was done to compare different methodologies. After selecting a definitive one (based on the method of Adele Faber and Elaine Mazlish), in 2023, an external evaluation was done, with a follow-up of participants from previous editions. In this evaluation process, we considered the durability of the contents over time, evolutions of assistance, and comparison of the modalities of 4 and 6 sessions. A quantitative methodology has been used through a self-administered questionnaire addressed to the participants (387 responses).

Results: Impact of the program: 78% of parents value the program as having a positive impact on their parenting skills. Durability: there are differences in how the passage of time affects content retention. Impact of attendance: the parenting skills of those who have attended all program sessions last longer. The attendance percentage at all sessions was higher (61.4%) in the four-session modality.

Lessons: Although families do not remember all the tools learned, their confidence, the improvement in the family atmosphere, and the fact that they feel more skilled are maintained over time. Main messages: Families have improved their parenting skills since the program gives them more tools to manage family conflicts, to promote their children's self-esteem and to encourage their autonomy.

Key messages:

- With the positive parenting program, parents increase their self-confidence to manage the challenges of parenting, especially in intra-family communication and conflict management.
- It is essential to promote positive parenting programs with an experiential methodology and maintained over time.

Abstract citation ID: ckae144.2019
"Friendships fizzled out": Trajectories and risk factors of youth loneliness following COVID-19

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Background: Social distancing and isolation during the COVID-19 pandemic left a mark on the social, emotional and cognitive development of youth. We aimed to identify the course of Dutch youth loneliness and its predictors since the Omicron lockdown in December 2021.

Methods: Data were obtained from a repeated cross-sectional panel study between March 2022 and September 2023, in which loneliness was assessed using the 6-item De Jong Gierveld Loneliness Scale. Youth (12-25 years) participating in at least three timepoints were included. A latent class growth analysis (LCGA) was performed to identify trajectories of loneliness. Themes identified in qualitative data (open-ended questions halfway 2022) were recoded into binary quantitative variables to be included in regression analyses. Two-step multivariable multinomial logistic regression was used to determine risk factors per trajectory class. Goodness of fit was assessed using the likelihood-ratio test.

Results: Identified trajectories were: 1) very lonely ($n = 140$), 2) moderate lonely ($n = 373$), 3) recovering ($n = 511$), and 4) not lonely ($n = 384$; reference). Compared to the other trajectories, youngsters following a moderate or very lonely trajectory had more often little to no trust in the future and more often experienced non-specific symptoms and stress due to various causes. Including perceptions showed that youth in these trajectories experienced a greater impact of the pandemic on their social relationships. The inclusion of perception also improved the model's goodness of fit ($p < 0.001$).

Conclusions: Up to 18 months after the COVID-19 pandemic, youngsters that reported loneliness continue to endure its consequences on their social lives. Despite the apparent association between the Omicron lockdown and continuing loneliness, claims about causality should be made with caution. However, findings implicate the importance of political and social recognition of the pandemic's ongoing impact on vulnerable youth.

Key messages:

- Lonely youth experienced a greater impact of the COVID-19 pandemic on their social lives.
- Political and social recognition of the pandemic's ongoing impact on vulnerable youth is wanted.

Abstract citation ID: ckae144.2020
Maternal pre-pregnancy weight and infant spontaneous movement: is there an association?

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Introduction: Maternal pre-pregnancy overweight status might create a chronic systemic inflammatory environment for the foetus, impairing neurons development. The Motor Optimality Score-Revised (MOS-R) is an established tool to assess infant spontaneous movement at 3-5 months helping predict later neurodevelopmental outcomes in infants, including language, minor neurological dysfunction or learning difficulties at school age. The aim of our study was to investigate if maternal BMI together with other characteristics were potentially associated with MOS-R score at 3-5 months in a sample of newborns representative of physiologic full-term pregnancies.

Methods: 128 mother-children couples were enrolled in the Hospital of Modena, Italy. Mothers' socio-demographic characteristics and BMI pre and during pregnancy were collected. MOS-R was assessed in infants within 9-18 weeks post term age (Median 13, IQR 12-14). Descriptive statistics, bivariate associations and multivariate analysis were performed.

Results: In our sample, 94.5% of infants (44% females) had a MOS-R$\geq$25 (optimal score), 3.9% a MOS-R between 23-24 and 1.6% a MOS-R<23. In bivariate analyses pre-pregnancy BMI$\geq$25 and weight gain higher than recommended during pregnancy were associated with MOS-R<25 ($p < 0.05$); being unemployed before and during pregnancy and having pregnancy during COVID lockdown were associated with reduced "age adequate movement repertoire" subcategory ($p < 0.05$). In multivariate analysis, pre-pregnancy BMI$\geq$25 remained the only factor significantly associated with lower scores ($p < 0.05$).

Discussion: Our sample of healthy infants showed a typical range of spontaneous movements reflecting neural integrity. However, lower MOS-R scores were associated with pre-pregnancy overweight. This finding reinforce the importance of enhancing public health actions targeted at keeping a weight in the normal range to protect from a large number of unhealthy conditions both the mother and the offspring.

Key messages:

- Pre-pregnancy weight appears associated with infant spontaneous movement in 3-5 months infants.
- Public health actions targeted at keeping female weight in the normal range must be strengthen.

Abstract citation ID: ckae144.2021
Electromagnetic fields exposure and neuropsychological effects in young people

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Background: In recent years, there has been a large increase in the use of communication/connected devices and technologies. This raises a question about radiofrequency electromagnetic fields (RF-EMF) exposure levels and neuropsychological effects of RF-EMF in young people. The aim of this study was to assess the pattern of use of communication/connected devices and technologies and its impact on cognition and mental health of early school age children in Poland.

Methods: The study population consists of 293 children from Polish Mother and Child Cohort (REPRO_PL). The study was based on questionnaire data covering type and duration of usage of communication/connected devices and technologies by mothers during pregnancy and children at age of 7 years. The environmental exposure to RF-EMF was also taken into account. Based on such data RF-EMF exposure was assessed. Child emotional and behavioral assessment was done by Strengths and Difficulties Questionnaire whereas IQ and psychomotor development of children was performed by psychologist using Intelligence and Development Scales.

Results: About 75% of young people used smartphones (2% for voice calls and 7% for Internet browsing at least one hour per day). Tablet or laptop use was declared by 59% and 56% of respondents, respectively. More than 10% declared that they use these devices at least one hour a day. The main factors determining the use of new technology devices were parental age and education ($p < 0.05$) and the age at which youth started school education ($p = 0.06$). In multivariable regression model higher level of RF-EMF was associated with total difficulties and emotional problems ($p < 0.05$).

Conclusions: This study presents the pattern of use of new technology devices by early school age children in Poland and the association between the exposure to RF-EMF and child mental health.

Key messages:

- The use of communication/connected devices and technologies is common among young people in Poland.
- The exposure to RF-EMF can increase mental health problems among young people.

Abstract citation ID: ckae144.2022
"If-then"-scenarios in the care of pregnant women with diabetes in socially vulnerable positions

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Background: Pregnant women with diabetes in socially vulnerable positions face a multiplicity of medical, social, and psychological risks during pregnancy and birth and are susceptible to health inequities. This presentation explores the tentative nature of care provided to these women.

Methods: We base our findings on ethnographic fieldwork among health professionals at an obstetric outpatient clinic in Denmark.

Results: The unpredictability of diabetes during pregnancy calls for a flexible approach to treatment, placing significant demands on health professionals, pregnant women, and their partners and their ability to adjust to new scenarios. Our initial findings underscore that care is not static; it is dynamically adjusted to meet the medical, social, and psychological needs of the women. The adjustments in care encompass the negotiation and monitoring of insulin dosages, fetal weight, appointment frequencies, and additional consultations and impromptu phone consultations to follow up. An example of the tentativeness in care could be that if there is a sudden decrease in insulin requirements close to the due date then the birth might be induced. Beyond medical monitoring and treatment, the care extends to social initiatives that the health professionals must coordinate with various municipalities, depending on where the pregnant women live. This could include a joint meeting after the delivery between the woman, her partner, a health professional from the obstetric ward, and a social worker from the municipality. Often, this meeting is mentioned during consultations and intersectional meetings before the birth but is not formally arranged. Instead, it is tentative - if the pregnant woman would like a meeting upon discharge, then the health professional will set up a meeting.

Conclusions: Medical, social, and psychological care practices for women with diabetes in socially vulnerable positions are replete with "if-then" scenarios.

Key messages:

- Care for pregnant women with diabetes in socially vulnerable positions is characterized by its fluidity and flexibility adjusting to the interplay of medical, social, and psychological needs.

- The "if-then" scenarios that characterize the care for pregnant women with diabetes in socially vulnerable positions put high demands on the ability to adapt and adjust continuously.

Abstract citation ID: ckae144.2023
TOPSE for babies in Norwegian: Examining the reliability of a tool to measure parenting self-efficacy

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Background: Parents' confidence in their parenting abilities and self-efficacy (PSE) is an important factor for parenting practices. The Tool to measure Parenting Self-Efficacy (TOPSE) is a questionnaire created to evaluate parenting programs by measuring PSE. Initially, it was designed for parents with children between 0-6 years old. A modified version specifically for parents of infants aged 0-6 months (TOPSE for babies) is currently being piloted. In this study, we have investigated the reliability of the Norwegian version.

Methods: The study included 123 parents of children aged 0-18 months who completed a digital version of the TOPSE questionnaire. Professional translators performed the translation from English to Norwegian and a back translation in collaboration with the author group. Mean and standard deviation were calculated for each of the questionnaire's six domains, and a reliability analysis was conducted using a Bayesian framework for the total sample (parents of children aged 0-18 months) and specifically for the parents of the youngest group of children (0-6 months).

Results: The overall Bayesian alpha coefficient for the six domains ranged from 0.54 to 0.83 for the entire sample, and from 0.63 to 0.86 for parents with children aged 0-6 months. For two of the domains, one item in each proved to primarily contribute to the low alpha coefficients and removing them improved the reliability, especially for parents of the youngest group of children.

Conclusions: Reliable tools to assess PSE and evaluate parenting programs is important. The Norwegian version of TOPSE for babies seems to be a reliable tool for measuring PSE, although there are variations across the children's age groups and domains.

Key messages:

- The findings from this study indicate that TOPSE in Norwegian is a reliable tool for assessing PSE.
- While our findings are promising, further research is warranted to establish a more robust evaluation, across both mothers and fathers, parental age and socioeconomic groups.

Abstract citation ID: ckae144.2024
Resilience and mental and physical health of higher and lower educated youth during COVID-19

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Background: COVID-19 had a considerable impact on the mental and physical health of youth. To limit the impact of this crisis on their health, resilience was required. This study aims to discover how resilient, in terms of mastery, emotional reactivity and social support, groups of youth with different SES were during COVID-19, and what risk and protective factors they experienced.

Methods: Two qualitative datasets were analyzed. One dataset included 10 interviews of university students during April-May 2020, and the other dataset included 8 interviews with pre-vocational secondary education adolescents during October 2021 to March 2022. Interviews were held in person or online. Data were analyzed with thematic analysis in Atlas.ti.

Results: In general, university students displayed resilience despite the tumultuous beginning of the pandemic, and their mental and physical health was positive. Protective factors that helped them during COVID-19 were spending time with friends and family, being healthy and having a healthy lifestyle, and being able to avoid stressful situations. Risk factors that impacted their resilience were loneliness, COVID-19 anxiety, and missing stability and routine. Adolescents receiving pre-vocational secondary education showed mixed resilience later in the COVID-19 period, and they made negative observations about their health. Protective factors that helped them were achieving good results in school, hobbies, and avoiding stressful situations. Risk factors they experienced were lack of motivation and having difficulties at school. They experienced worry about school progress during COVID-19.

Conclusions: University students and lower educated adolescents seemed to have differing resilience during the impactful stages of COVID-19, possibly due to differences in their psychological development. To protect their well-being, it is important that policy makers consider the protective and risk factors that impact the health of youth during crises.

Key messages:

- Resilience differs among the two different age groups and education levels.
- Policy makers should consider the protective and risk factors that impact the health of youth during crises.

Abstract citation ID: ckae144.2025
Stakeholder perspectives on supplemental milk for infants under six months with growth faltering

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Background: Growth faltering is a significant public health issue among infants aged <6 months (m). Supplemental milk is commonly used for infants with growth faltering, with variations in type and duration. We synthesized qualitative evidence on stakeholder perspectives about equity, feasibility, and acceptability of the type and duration of supplemental milk for infants aged <6m with growth faltering.

Methods: We conducted a comprehensive search of six electronic databases in addition to manual searches to identify all qualitative studies published during January 2000-June 2022. Identified articles were screened in two stages against an inclusion criteria with titles and abstract screened first followed by full-text screening. Included studies were quality appraised using the Critical Appraisal Skills Programme checklist. The primary outcome was equity, feasibility, and acceptability of various supplemental milk for infants <6mwith growth faltering.

Results: Eighteen studies, reporting perspectives of mothers, fathers, grandmothers and healthcare providers were included. Studies were conducted in North America (9), Africa (5) and Asia (3) and South Australia (1). Donor human milk (DHM) (13) and infant formula(9) were the main supplementary milk reported followed by cow/goat milk (2). Key sub-themes derived were: education/awareness, socioeconomic status (SES), race and religion, practicality, availability of resources, sustainability, cost, affective attitude, perceived effectiveness and ethicality. Maternal/caregiver SES was a key sub-theme across all three supplemental milk feeds, acting either as a barrier or facilitator for uptake.

Conclusions: DHM and infant formula were the most commonly reported supplemental feed for infants aged <6m with growth faltering. Maternal/care giver factors were perceived as key to ensure equity, feasibility, and acceptability with respect to type and duration of supplemental milk for infants aged <6m with growth faltering.

Key messages:

- Stakeholders perceived donor human milk and infant formula as main supplemental milk for infants aged <6 months with growth faltering.
- Maternal/care giver factors are key to ensure equity, feasibility, and acceptability of supplemental milk for infants aged <6 months with growth faltering.

Abstract citation ID: ckae144.2026
Association between infant feeding behavior and maternal choice of breastfeeding type

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Introduction: Feeding in infants is a fundamental process influenced by the mother-child relationship during the early months of life. The regulation of feeding behavior, and hunger and satiety cues may be interpreted by the mother, potentially relating to the type of feeding chosen.

Objectives: To determine the association between infant feeding behavior and the type of breastfeeding chosen by the mother.

Methods: A cross-sectional and prospective study was conducted, including mothers with children aged between 6 and 18 months. Those with medical contraindications for immediate postpartum breastfeeding or with suspension of exclusive breastfeeding during the first 6 months of life due to medical prescription were excluded. The Baby Eating Behavior Questionnaire was used to evaluate the baby's enjoyment of food, appetite response, eating speed, and satiety response.

Results: 108 mothers were included, with 87% in agreement with exclusive breastfeeding (EBF), 43.3% using breastfeeding as the primary feeding method, and only 33.3% practicing EBF during the first 6 months. Food response (FR) scored 19.6 (±4.3), enjoyment of food (EF) 17.6 (±2.1), satiety response (SR) 7.1 (±2.0), eating speed (ES) 8.8 (±2.3), and appetite (AP) 4.2 (±0.7). Comparing FR, EF, SR, ES, and AP scores between those who practiced EBF and those who did not showed $p > 0.05$. sociodemographic characteristics, perinatal factors, stance on EBF, number of hours per day with the child, feeding location, poor technique, breastfeeding pain and lack of medical guidance, all showed $p > 0.05$ when comparing between those who practiced EBF and those who did not; in contrast to perceiving that the baby wanted to breastfeed (2.5/1.0-6.2), having time to feed (3/1.2-7.2) and having no health problems (10/1.2-78.7) all with p-value <0.05.

Conclusions: The mother's perception identifying the baby's desire to breastfeed, having time to feed the baby and not having health problems favor exclusive breastfeeding.

Key messages:

- Maternal perception plays an important role in deciding to give SCI, so it is the physician's job to educate the mother so that she has additional arguments for choosing SCI.
- The infant's feeding behavior does not have a significant impact on the mother's behavior in choosing SCI feeding.

Abstract citation ID: ckae144.2027
Predictors of social withdrawal among early adolescents in Korea: a latent growth class analysis

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Background: This study examines the trajectory of social withdrawal from the fourth grade of elementary school to the first grade of middle school in Korea. By classifying them, we identify individual differences such as individual, family, and school factors.

Methods: This study uses data from the Korean Youth Panel Survey (KYCPS) conducted by the Korea Youth Policy Research Institute, which includes data from the 1st-4th waves of KYCPS 2018, with a total of 2,607 participants (1,313 boys and 1,294 girls). A latent class growth analysis verifies the trajectory of youth social withdrawal, classifies latent classes, and identifies predictive. SPSS 24.0 was used to analyze the main variables' characteristics, descriptive analysis, and reliability. Mplus 8.9 was used to test the research model.

Results: First, results indicated that three was the optimum number of latent classes. We identified three latent classes 'high level of withdrawal continued (HL)', 'medium level of withdrawal increased (ML)', and 'low level of withdrawal increased (LL)'. Second, when compared the 'LL' and 'HL' groups, the higher the self-esteem, the higher the friendship, and the higher the dependence on smartphones, the more likely it was to be in the 'HL' group. Third, when comparing 'LL' and 'ML' groups, the more negative the parenting attitude, the more likely it was to be in the 'ML' group. On the other hand, higher self-esteem and more positive friend and teacher relationships were associated with a higher likelihood of being in the 'LL' group.

Conclusions: It is necessary to seek differentiated interventions to prevent social withdrawal among early adolescents. Parental education to understand the adolescent period and practical approaches to intervene in the negative psycho-emotional aspects of adolescents continuously are needed to enhance the healthy psychological development of early adolescents.

Key messages:

- The higher the self-esteem, the higher the friendship, and the higher the dependence on smartphones, the more likely it was to be in the 'high level of withdrawal continued' group.
- Higher self-esteem and more positive friend and teacher relationships were associated with a higher likelihood of being in the 'low level of withdrawal increased' group.

Abstract citation ID: ckae144.2028
Nicotine use in Polish adolescents and sociodemographic factors correlations - PolNicoYouth study

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Background & aim: Almost 36% of Polish smokers started their addiction before the age of 17. Polish youth exhibit a higher prevalence of e-cigarette use (29.5%) than traditional cigarettes (26.2%). This study aimed to outline the prevalence of tobacco and nicotine product use based on usage frequency, poly-product use patterns among ever/former/naive users.

Methods: In the 2020 cross-sectional study, secondary school students from 200 schools, were selected nationwide using a stratified and random approach, making the sample representative of the entire Polish population. Data were collected through Computer-Assisted Web Interviews, using a questionnaire based on the Global Youth Tobacco Survey. Bayesian linear regression was used to assess correlations.

Results: The study consisted of 16,712 pupils aged 15-18. Almost 30% of participants admitted to current e-cigarette usage. Questions on parental smoking habits showed that 45.95% of parents smoke traditional cigarettes, 13.89% use e-cigarettes, and 13.80% use heated tobacco products (HTP). There was a very strong positive correlation between the female gender and the initiation of smoking with regular cigarettes (log[BF]=10.76). A very strong positive correlation between those studying in vocational schools and with initiation with regular cigarettes during initiation (log[BF]=18.13), while high school students had a greater association with e-cigarettes (log[BF]=11.08). There was also a very strong positive correlation between adolescents initiating smoking with regular cigarettes when their parents are also regular cigarette smokers (log[BF]=8.11) - no corresponding correlations were observed for e-cigarettes and HTP. There is a moderate positive correlation indicating a relationship between younger age (15 vs 18) and initiation by e-cigarette (log[BF]=1.8).

Key messages:

- The type of nicotine product used by adolescents for nicotine initiation correlates differently with various socio-demographic factors and the type of nicotine product used by parents.
- Taking these relationships into consideration enables the development of tailored nicotine prevention.

Abstract citation ID: ckae144.2029
An evaluation of the first ten years of Newborn Screening for cystic fibrosis in Ireland

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Ireland has the world's highest incidence of cystic fibrosis (CF). Newborn screening for CF (NBSCF) improves outcomes but identifies carriers and may yield false positive/inconclusive results. This study aimed to evaluate the performance of the first 10 years of the Irish NBSCF programme. Data collected by the programme between 01st July 2011 and 30th June 2021 were analysed, including cases of CF, CF carriers and Cystic Fibrosis Screen Positive Inconclusive Diagnosis (CFSPID). Microsoft Excel was used to calculate sensitivity, specificity and positive predictive value (PPV). Results were compared to European Cystic Fibrosis Society (ECFS) standards. Overall 650,809 neonates were screened, with 290 cases of CF, 533 CF carriers and 21 CFSPIDs reported. NBSCF identified 284 (98%) of the children with CF, sensitivity was 97.93% (95% CI 96.29-99.57), specificity was 99.91% (95% CI 99.91-99.92%), PPV was 0.34 (95% CI 0.31-0.37). The observed incidence of CF was 1 in 2,203, still Europe's highest. Of the six undetected cases, most were of Asian ethnicity, suggesting panel limitations for diverse ethnicities.The Irish NBSCF programme exceeded ECFS standards. Most false negatives were caused by CFTR mutations undetected by the genetic panel. Increasing the size of the genetic panel increases detection of CFSPID and carriers and is not currently recommended. Ongoing validity monitoring is vital as the Irish population diversifies.

Key messages:

- The Irish Newborn Screening Programme for Cystic Fibrosis is effective.
- Ongoing validity monitoring is vital as the Irish population diversifies.

Abstract citation ID: ckae144.2030
The relationship between perceived parental phubbing and smartphone addiction in adolescents

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Background: Parental phubbing refers to the degree to which parents reduce or ignore their interactions with their children while taking care of their smartphones. Today, it has become important to conduct studies to understand the effects of parental phubbing on adolescents, which is increasing globally. This study aims to evaluate the relationship between perceived parental phubbing and smartphone addiction as well as depression in adolescents.

Methods: In this cross-sectional study, 314 adolescents aged 10-18 years who applied to the general pediatrics outpatient clinics of a university hospital in Ankara, the capital of Türkiye, were included. The questionnaire form used for data collection consisted of questions about the sociodemographic information of the participants, 'Perceived Parental Phubbing Scale', 'Kutcher Adolescent Depression Scale Short Form', and 'Smartphone Addiction Short Form for Adolescents' items. Descriptive statistics, Mann Whitney U, Kruskal Wallis H test and Spearman correlation analysis were used to analyse the data. A value of $p < 0.05$ was considered statistically significant.

Results: Depression and smartphone addiction levels were found to be significantly lower in adolescents who did not smoke, engaged in regular physical activity and had a close group of friends ($p < 0.05$). It was also found that the level of perceived parental phubbing was significantly higher in adolescents whose parents' education level was above high school and who felt lonely ($p < 0.05$). Low level positive correlations was found between perceived parental phubbing and both depression ($r = 0.116$, $p = 0.041$) and smartphone addiction ($r = 0.128$, $p = 0.023$).

Conclusions: As the level of parental phubbing perceived by adolescents increased, the levels of depression and smartphone addiction in adolescents increased. These negative effects of parental phubbing on adolescents should be taken into consideration by mental health professionals.

Key messages:

- It is important to consider and question parental phubbing as one of the related factors in adolescents with high levels of smartphone addiction and depression.
- There is a need for studies to increase the awareness of parents, who are important role models for adolescents, about the concept of phubbing and its effects on adolescents' mental health.

Abstract citation ID: ckae144.2031
Income inequality and risky health behaviors of affluent adolescents in the post-Communist Europe

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Background: We aim to study the "golden youth" hypothesis and examine the risky behaviors of adolescents with high socioeconomic position (SEP) in post-Communist countries of Europe (PCCE) in relation to income inequality.

Methods: Adolescents aged 11-15 years from 14 PCCE participating in the Health Behavior in School-aged Children survey 2017/18 were included. A K-means cluster analysis was conducted to group adolescents based on tobacco smoking, alcohol use, binge drinking, and bullying perpetration. Generalized linear mixed models were fitted.

Results: Four clusters of adolescents were identified. The percentage of high-SEP adolescents in Cluster 1 (low risky behaviors) was slightly less compared to middle and low-SEP groups (70.9% vs 73.1% vs 73.9%, respectively). High-SEP adolescents were more likely to be in Cluster 2, characterized by frequent alcohol consumption but moderate binge drinking (14.3% vs 12.6% vs 10.7%). The prevalence of risky behaviors was similar between high and low-SEP adolescents in Cluster 3 (high smoking, frequent alcohol use, binge drinking, and moderate bullying) (8.0% vs 7.7% vs 8.2%) and Cluster 4 (high levels of bullying perpetration) (6.7% vs 6.5% vs 7.2%). Countries with higher Gini index were at a greater risk of reporting risky behaviors. High-SEP adolescents were more likely to engage in risky behaviors in countries with high income inequality. The odds ratios comparing high- vs. low-SEP adolescents ranged from 0.89 in the least unequal to 1.67 in the most unequal countries for multiple risky behaviors (Cluster 3: P-interaction = 0.042) and from 0.61 to 1.19 for bullying perpetration (Cluster 4: P-interaction = 0.030).

Conclusions: High-SEP adolescents in PCCE might be at an increased risk for unhealthy and vicious behaviors, especially in countries with high income inequality. This study highlights the need for policies that address income inequality to ensure the well-being of adolescents across socioeconomic strata in PCCE.

Key messages:

- High-SEP adolescents might be at an increased risk for unhealthy behavior in PCCE.
- Wide income inequality might contribute to risky behaviors among high-SEP adolescents.

Abstract citation ID: ckae144.2032
Pleasure-inclusive sex education, sexual agency and sexual wellbeing in youth: A scoping review

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Background: A recent review study showed that pleasure-inclusive sex education can contribute to reducing sexual health risks such as unwanted pregnancy and STIs (Zaneva et al., 2022). Pleasure-inclusive sex education could also contribute to other measures of sexual wellbeing. In this study, we review the literature on associations between pleasure-incorporating sex education and sexual agency (including related concepts such as autonomy) and sexual wellbeing (part 1), and between sexual agency and sexual wellbeing (part 2).

Methods: We searched in 5 scientific databases using a wide scope of variables related to pleasure inclusive sex education, sexual agency, and various outcomes of sexual wellbeing, focusing on the last 2 decades. Forty-six articles were selected.

Results: In part 1 of the review we found that all studies reported associations between pleasure-based sex education and sexual agency or sexual wellbeing, but the literature is characterized by limitations and did not permit conclusions about the role of an added benefit of the pleasure component. In part 2 of the review study, we found positive associations between sexual agency (and related variables) and sexual wellbeing (including decreased levels of (re-)victimization).

Conclusions: Sexual agency may be related to increased sexual wellbeing, but it is still largely unclear whether pleasure-inclusive sex education can significantly contribute to this. There is a great need for high quality research, using innovative evaluation designs, taking into account the role of other important sources of sex education and other contextual factors.

Key messages:

- A lot of work has been done, but the evidence that pleasure in sex ed 'works' for sexual wellbeing, is limited and indirect.
- Great need for high quality research using novel and more realistic evaluation approaches.

Abstract citation ID: ckae144.2033
Prevention of sexual exploitation of children in sport clubs and social work in Switzerland

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The Convention on the Rights of the Child, ratified in 1989, provides a clear normative basis for the protection of children from violence, abuse and exploitation. Despite efforts to protect children, many children and young people are victims of sexual violence. In the extracurricular sector, clubs offer great potential for preventing sexual exploitation. However, obstacles such as the taboo nature of the topic and the clubs' limited resources make it difficult to develop and independently implement specific prevention offers. The aim of the project was to record the activities and competencies of sports clubs, youth associations and other youth organizations in the area of prevention of sexual assault among children and adolescents in the leisure sector and to determine the need for prevention services in the canton of Zurich in Switzerland. In addition, information was obtained on the impact of existing prevention services as well as information on their further development in terms of content and organization. Together, 979 participants from sports clubs, youth associations and youth organizations (e.g. board members, coaches, leaders) as well as the parents of children who are members of these clubs were surveyed. An impact model was developed for systematic modeling, as proposed by "Health Promotion Switzerland". The prevention of sexualized violence is seen as a very relevant topic by sports clubs, youth associations, open child and youth work and parents. However, the current implementation of prevention measures also shows that there are still barriers to implementation and room for improvement in prevention work. Participants from all areas would particularly like support with advice on how to deal with suspected cases/incidents, the provision of information materials and the creation of a protection concept. Specific ideas for the further development of prevention work were also generated and will be discussed.

Key messages:

- The prevention of sexualized violence is seen as a very relevant topic by sports clubs, youth associations, open child and youth work and parents.
- The study reveals that prevention measures are only partially implemented and identifies barriers and facilitators for improvement.

DS. Poster display: Migrant and ethnic minority health

Abstract citation ID: ckae144.2034
Health status, healthcare use and prevention in Travellers in Nouvelle Aquitaine, France, 2019-2022

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Background: The poor health status of underserved populations is compounded by low vaccination uptake, leading to a greater risk of epidemics. On October 2017, a measles outbreak started in the southwest of France among under-vaccinated social groups, including Travellers. We aimed to describe the health status, healthcare use and child measles-mumps-rubella (MMR) vaccination coverage in Travellers according to their environmental and living conditions.

Methods: A cross-sectional study with a three-stage random sample design was conducted between October 2019 and March 2022 in the Nouvelle-Aquitaine region in France. Trained social workers administered face-to-face questionnaires to collect data on adults and children. Anthropometric measurements, vaccination records, and data using an environmental exposure questionnaire were also collected.

Results: The participation rate was high (73.6%), with 1030 adults and 337 children included. Concerning the adults, 36.6% had obesity, 14.4% reported diabetes, 24.7% hypertension, and 14.4% major depression. The prevalence of major depression was significantly higher in adults living in precarious and unauthorized housing than in those with adequate housing (19.8 vs. 14.7%, $p = 0.03$). The unmet health care needs in the last 12 months was 48.4%. With regard to children, 45.3% had full (i.e., 2-dose) MMR vaccination coverage at 24 months and 17.9% had obesity. Finally, 74.5% of the households experienced housing insecurity, and 22.2% did not have a supply of drinking water.

Conclusions: Traveller children and adults faced deleterious environmental and living conditions potentially affecting their health, healthcare use, and vaccination coverage. These results demonstrate the need for urgent interventions for underserved populations which take into account their difficult living conditions.

Key messages:

- Travellers have a greater burden of chronic diseases than the general French population and measles-mumps-rubella vaccination coverage among Traveller children is lower than in the general population.
- The more precarious the housing, the more likely Travellers are to report having a chronic disease (social exclusion gradient).

Abstract citation ID: ckae144.2035
Acculturation and self-management abilities of well-being among older Moroccans in the Netherlands

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Background: Migration involves a variety of stressors. Their accumulation over time may negatively impact migrants' well-being. The extent that older migrants can integrate into a host society may determine their readiness to adopt behaviors such as self-management of well-being. Research regarding this relation among older Moroccans, one of the largest migrant groups in the Netherlands, has not been examined. This study aimed to investigate the relationship between acculturation and self-management abilities of well-being among older Moroccans and to examine differences in subgroups.

Methods: This cross-sectional study included 290 older Moroccans (≥ 65) living in Rotterdam, the Netherlands. Linear regression was applied to explore associations between acculturation (attachment to Moroccan and Dutch cultures) and self-management abilities of well-being. Independent samples t-tests were used to test differences between subgroups.

Results: Older Moroccans who received low education were found to be less attached to the Dutch culture [3.24 (0.72) vs. 3.54 (0.73); $p = 0.016$]. They were also poorer self-managers of their well-being [2.60 (0.59) vs. 2.86 (0.58); $p = 0.012$], along with those with multimorbidity [2.55 (0.60) vs. 2.77 (0.54); $p = 0.006$] and those lacking comprehension of Dutch [2.46 (0.56) vs. 2.69 (0.59); $p = 0.011$]. Self-management abilities of well-being had a negative association with multi-morbidity ($\beta = -0.18$, $p = 0.007$) and lack of Dutch comprehension ($\beta = -0.16$, $p = 0.031$), and a positive association with attachment to Moroccan ($\beta = 0.17$, $p = 0.012$) and Dutch ($\beta = 0.18$, $p = 0.010$) cultures.

Conclusions: Findings indicate that attachment to Moroccan and Dutch cultures is beneficial for older Moroccans' self-management of well-being. Efforts need to support older migrants' integration for them to adequately function and feel at home. Interventions promoting integration and self-management need to consider the characteristics of older migrant populations

Key messages:

- Attachment to origin and host cultures benefits older migrants' self-management of well-being. The cultural context of older migrants needs to be considered when promoting values of self-management.
- Differences in acculturation and self-management of well-being existed between older migrant subgroups. Interventions promoting these values should account for the diversity that exists among migrants.

Abstract citation ID: ckae144.2036
Vaccine awareness and hesitancy among Ukrainian refugee mothers in Bulgaria

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Issue: Migration carry out risk of disrupting the epidemiological well-being among refugees and host populations. Since the beginning of Ukraine crisis over 50 000 refugees remain in Bulgaria; 92% are women and children. There is suboptimal childhood immunization coverage among Ukrainian refugee community prior to arrival in Bulgaria.

Description of the problem: Childhood vaccination is mandatory in Bulgaria for TB, hepatitis B, diphtheria, tetanus, pertussis, poliomyelitis, rubella, measles, mumps, Haemophilus influenzae B and pneumococci. Refugees with uncertain immunization status are vaccinated according to the national immunization schedule and receive personal immunization card. As of March 2024, we conducted cross-sectional study to assess knowledge and attitudes of Ukrainian mothers through an interview.

Results: Of 105 mothers interviewed, 72.38% were with higher education. Arrived women were not familiar with Bulgarian health system and especially with vaccination. Absence of language barrier and presence of doctors among them facilitated our study.56.19% believe that migration has disrupted their children's vaccinations. 56.19% consider that migration has disrupted their children's vaccination. Aware of benefits of vaccines were 91,43%, they mainly trust doctors-84.76%, they pay attention to the positive discussion in the media-55.77%.Mothers realize the importance of herd immunity, considering that vaccinated children protect the others-68.57%. Leading reasons for mistrust of vaccines, mothers indicate - doubt in favor of vaccine-24.76%, medical contraindications for child-21.90% and doubts about quality of the vaccine-19.05%.They pay attention to positive discussion in the media-55.77% and have confidence in Bulgaria's institutions.

Lessons: The Government of Bulgaria provided significant support and medical care for the prevention of vaccinepreventable diseases among Ukrainian children. Institutions and volunteers work for successful integration of refugees.

Key messages:

- Need to know the immunization status of Ukrainian children admitted to Bulgaria.
- Increasing trust in vaccines and the health system in general in Bulgaria requires additional explanatory campaigns among refugees.

Abstract citation ID: ckae144.2037

Health services consumption and barriers in the health care of persons of Roma origin in Bulgaria

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Introduction: Persons of Roma origin often face serious inequities concerning their state of health and their access to good quality health services. The aim of the study is to analyze the health services consumption and barriers in the health care of persons of Roma origin in Bulgaria.

Methods: The cross-sectional study was conducted and a semi-structured face to face interview were applied in 2022. Adult citizens of Roma origin were covered as follows: residents of Knezha - a total of 59 people and households from the towns of Knezha and Kotel - 18 families (50 persons). The cities are representative of settlements of medium size with separate neighborhoods of Roma origin. Data processing was performed by SPSS v.24.

Results: Over two thirds of the covered persons of Roma origin do not have health insurance. In each household an average of 1.8 uninsured people was found, but in some of the families almost all of the elderly members are not insured. Due to lack of health insurance in 14% of the households were reported a refusal to provide health care by general practitioners (GPs) and specialists in out-hospital care. 82.1% of Roma women have never had a mammography and 71.4% a smear test. In 83.3% of the households required direct payment for the provision of health services, which corresponds to the high share of informal payments in health care in Bulgaria (34 % in 2023), but among the Roma population this share is significantly higher. The households have to pay for specialized out-hospital care (66.6%), GPs (22.2%), and for emergency assistance (5,6%). 44.4% of the families have used the services of emergency care in the last one year. While in one third of the families an adult member was hospitalized in 27.8% of them there is a need for hospital treatment, which is unrealized.

Conclusions: The Roma population in Bulgaria is characterized by an unfavorable health profile and the health services provided to the persons of Roma origin are inadequate to their needs.

Key messages:

- Persons of Roma origin in Bulgaria often face serious inequities concerning their state of health and their access to good quality health services.
- Improving the socioeconomic status of people of Roma origin will increase their opportunities for health insurance and going to improve their access to health services.

Abstract citation ID: ckae144.2038

Institutional Discrimination in Health Security Policies against Immigrants in South Korea

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Background: South Korea is poised to become Asia's first multiethnic society with over 5% of its population, totaling more than 2.5 million, being immigrants. This demographic shift presents significant public health challenges linked to widespread, and even intensifying, institutional discrimination in healthcare services.

Methods: This study reviews discriminatory practices across ten essential health security programs, including National Health Insurance (NHI) system, disability assistance, occupational health services, maternal and child care services, national immunization program, health screening program, and assistance for catastrophic medical expenses. Government data and personal narratives were also reviewed to identify the discriminatory elements that can have significant consequences, including increased disease prevalence, higher incidence of occupational injuries, and broader socio-economic instability among migrants.

Results: Discriminatory elements were found in most programs, with the exception of emergency medical services. These programs commonly provide fewer benefits or impose stricter eligibility criteria for migrants compared to nationals. In particular, the Korean NHI system demands migrants to pay higher premiums and more rigorous maintenance requirements.

Conclusions: The findings emphasize the need for urgent reforms to equalize health insurance costs, simplify eligibility criteria for migrants, and broaden the scope of benefits to encompass all residency statuses. Implementing these changes will enhance public health infrastructure, improve occupational safety, and foster better integration of the diverse population, ultimately promoting social cohesion and a fairer health system for all.

Key messages:

- A number of discriminatory elements against migrants have been identified in South Korea's social security policies that can exacerbate health disparities.
- Reforms are needed to expand benefits and relax eligibility criteria for migrants in key healthcare policies, including the National Health Insurance system.

Abstract citation ID: ckae144.2039
Health-related quality of life among refugees from Nagorno Karabagh resided in Kotayk, Armenia

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Background: In September 2023, more than 100,000 ethnic Armenians were displaced from Nagorno Karabakh (NK). This study assessed the health-related quality of life (HRQoL) and associated factors among NK refugees who settled in Kotayk province of Armenia.

Methods: We surveyed 197 refugees using a structured interviewer-administered questionnaire, which collected information about socio-demographics, chronic diseases, smoking status, HRQoL, utilization of healthcare services, living conditions and food access. The SF-36 Health Survey assessed HRQoL. Ophthalmic examination was conducted. Eyeglasses and medications were provided at no cost to those requiring them.

Results: The participants' mean age was 64.8 years and 59.4% were retired. The most commonly reported chronic diseases were bone/ joint diseases (67.5%), hypertension (55.3%) and heart diseases (24.9%). Around 48.7% of participants experienced sleeping disorders often/ very often. The mean total SF-36 score was 57.42±23.12; the mean physical (PHC) and mental health component (MHC) scores were 63.57±26.28 and 59.37±20.04, respectively. Only 28% of the participants utilized healthcare services after displacement. Most participants had consistent access to an adequate food supply. In the adjusted analysis age (B/PHC=-0.94, $p < 0.001$; B/MHC=-0.61, $p < 0.001$), sleeping disorder (B/PHC=-21.86, $p = 0.011$; B/MHC=-17.44, $p = 0.001$), use of medical service (B/PHC=-8.63, $p = 0.022$; B/MHC=-6.95; $p = 0.015$) and having more than one chronic disease (B/PHC=-17.35, $p < 0.001$; B/MHC=-10.90, $p = 0.001$) were associated with both PHC and MHC.

Conclusions: This study marks the first assessment of HRQoL among NK refugees. Governmental support and interventions targeting individuals with ophthalmic, sleeping, and chronic diseases might be beneficial. Follow-up assessments should track changes in both physical and mental health scores in this population, as they may fluctuate over time in response to displacement challenges.

Key messages:

- Age, sleeping disorder, use of medical service, and the number of chronic diseases were significantly associated with decreased PHC and MHC of HRQoL
- Interventions targeting individuals with restricted access to healthcare services, as well as those affected by eye diseases and chronic health issues might be beneficial.

Abstract citation ID: ckae144.2040
Vaccination in the post pandemic era - a qualitative study of the experiences of Somali immigrants

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Background: The Somali population is the largest non-European immigrant group in Norway and past studies have indicated lower coverage for both childhood vaccines and COVID-19. However, little is known about views and experiences of vaccination among this group and how their experiences might impact their vaccination decision-making process. This study explored views and experiences with vaccination among Somali immigrants in Norway.

Methods: We conducted semi-structured interviews with 15 participants in the fall of 2022. To better understand the participants' perceptions of vaccine information, the data was inductively analyzed using a reflexive thematic analysis.

Results: Based on the thematic analysis, we focused on four sub themes: 1) the impact of COVID-19 on views of vaccines; 2) new versus old vaccines; 3) childhood vaccination; 4) trust in vaccines. The study found that the participants' experiences during the pandemic have impacted their views on vaccination in general. Many of the participants expressed positive views and high levels of trust in the Norwegian health authorities and their vaccination recommendations. It was found that having sufficient information and trust in vaccination recommendations contributed to higher vaccine readiness. Viewing vaccines as new and insufficiently tested or researched, as well as lacking information about potential side-effects, increased participants' hesitancy when faced with vaccination decisions. Among the parents in this study, postponing the measles-mumps-rubella-vaccine due to fear of autism was a common occurrence.

Conclusions: The current study fills an important gap in knowledge about views, experiences, and vaccination decisions among the Somali population in Norway. Knowledge from this study can help adapt better vaccine information and further improve the prevention of infectious diseases in Norway in general and for under-vaccinated groups in particular.

Key messages:

- Having sufficient information and trust in vaccination recommendations contributed to higher vaccine readiness.
- Viewing vaccines as new and insufficiently tested/researched, as well as lacking information about potential side-effects, increased participants' vaccine hesitancy.

Abstract citation ID: ckae144.2041
A Qualitative Study of Implementation Outcomes of a Group-Based Intervention for Immigrant Parents

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Background: Inequities in service utilization between immigrant families and native populations have emerged within the Nordic welfare countries, highlighting the need for culturally sensitive parenting support. Despite the proven efficacy of parenting interventions, their implementation phases have not been adequately addressed in extant implementation research, particularly regarding structural racism and inequities. This study aims to contribute to the literature from an implementation perspective by describing a pilot of 'Being a Parent in Finland,' a culturally sensitive group-based intervention for migrant parents. Its specific focus is on investigating barriers to and facilitators of implementation outcomes from the perspectives of service providers.

Methods: The qualitative data consisted of thematic interviews ($N = 6$) with service providers ($N = 9$) compiled at distinct phases of the pilot from 2021 to 2023. In addition, data triangulation was utilized through document analysis of 125 pages of various documents regarding the pilot as a supplementary data collection method. Content analysis was conducted on the data using Atlas. ti 23.

Results: The findings stress the alignment of the target group, service placement, and preventive measures for enhancing parenting intervention's acceptability, appropriateness, and feasibility. Implicit objectives, such as perceiving the target group as 'at-risk,' can impede intervention success and exacerbate stigmatization of the target group. Culture- and context-specific adaptations, and community engagement foster parental trust and intervention accessibility.
Conclusions: The findings underscore the significance of congruent objectives, community engagement, and adaptive iterations in preventive parenting interventions. Advocating for these elements in implementation strategies is crucial for reducing stigmatization and enhancing equity and efficacy in services tailored to minority parents.
Key messages:

- Acknowledging equity in both implementation research and strategies is paramount.
- Implementing trust-building is crucial for culturally sensitive parenting interventions.

Abstract citation ID: ckae144.2042

Satisfaction with maternity care among immigrant women compared to non-immigrant women

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Introduction: Migration is a worldwide phenomenon leading to challenges for the health care system. There is conflicting evidence on the effect of migration on the satisfaction with obstetric care. Our hypothesis was that satisfaction with obstetric care was lower in immigrant women with and without self-defined (sd) refugee status than in non-immigrant women.
Methods: In the Pregnancy and Obstetric Care for Refugees (PROREF)-study between June 2020 and April 2022 in Berlin women were interviewed 1-3 days after giving birth with the Migrant Friendly Maternity Care Questionnaire (MFMCQ). The interview data was linked to the routine perinatal data of the hospital charts. Descriptive analysis and logistic regression analysis were performed to identify factors influencing satisfaction with obstetric care.
Results: A total of 3420 women (Frauen (247 with sd refugee status, 1356 immigrant women und 1817 non-immigrant women) could be included in the study, with an overall response rate of 77.5%. Satisfaction measured generally high with over 80% of women being satisfied with obstetric care at all three time points: during pregnancy, during labor and birth and after giving birth. We identified two factors associated with an increased chance of being satisfied with obstetric care: sd refugee status (OR 2.57, 95% Cl 1.48 - 4.44, p-value 0.0008) and being multipara (OR 1.40, 95% Ci 1.18 - 1.67, p-value 0.000).
Conclusions: Efforts on improving birth experience should focus on primipara. Among the reasons for non-immigrant women being less satisfied with care than women with sd refugee status might be different expectations and the timing of data collection.
Key messages:

- Refugee women might have different expectations regarding birth experience than other immigrant women and non-immigrant women.
- Satisfaction with obstetric care in Berlin is generally high among immigrant women and non-immigrant women.

Abstract citation ID: ckae144.2043

Dialogue between researchers and older immigrant women in Norway post COVID-19: A qualitative study

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Background: In the wake of the COVID-19 pandemic, marginalized groups, particularly older immigrant women, have faced new challenges, prompting an urgent need for research to understand their post-pandemic needs and foster inclusive healthcare systems. In view of this, older immigrant women and researchers developed a project based on dialogue, holding monthly meetings for a year, with the aim of improving health literacy for the women, and enlightening the researchers on the women's challenges. This study has sought to understand the experiences of the dialogue between older immigrant women and researchers.
Methods: We utilized participant observation in five dialogical meetings between older immigrant women and researchers, followed by semi-structured interviews with 8 older immigrant women and 7 researchers in Bergen. Data was analyzed using thematic analysis, supported by audio-recorded and transcribed interviews, alongside notes from participant observations.
Results: Analysis yielded three main themes of health knowledge, collaboration, and power dynamics. The dialogue was seen as a positive experience by both older immigrant women and researchers, with a view to establishing collaboration and trust. It also encouraged user participation in research, for the women, and carrying out research that was relevant to this otherwise 'invisible' population to the health system, for researchers, whilst empowering the women with knowledge to improve and maintain their own health.
Conclusions: This study sheds light on the crucial role of dialogue between older immigrant women and researchers in understanding post-COVID-19 needs. The findings underscore the importance of fostering collaboration, trust, and user participation in research, empowering marginalized populations while addressing gaps in the healthcare system. By amplifying the older immigrant women voices' and promoting inclusive research practices, we can foster responsive and equitable healthcare systems.
Key messages:

- Dialogue between older immigrant women and researchers is essential for understanding post-COVID-19 needs, fostering collaboration and trust.
- User participation empowers marginalized groups, while relevant research improves healthcare inclusivity and outcomes for all.

Abstract citation ID: ckae144.2044

Co-designed study with the Traveller Community in Ireland to determine cancer awareness & attitudes

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Background: Irish Travellers are a distinct ethnic minority group (formal recognition March 2017). They experience higher mortality than the general population at all ages for all causes of death.

Study Aim: To determine cancer awareness and attitudes among the Traveller Community in Ireland, and to identify barriers/enablers to cancer risk reduction behaviours and early diagnosis of cancer.

Methods: A co-designed multi-method study was developed in collaboration with Pavee Point, a national NGO for Travellers, the National Social Inclusion Office (NSIO) and the National Cancer Control Programme (NCCP) including: 1. Consultation with Pavee Point and NSIO representatives to inform the study proposal and methodology. 2. Co-design of methodology for ethics applications and subsequent data collection plan including interview topic guides and the development of a culturally appropriate version of the NCCP's 2022 National Survey on Cancer Awareness, adding questions on social determinants of health and screening participation. 3. Collaboration with 12 peer-led Primary Health Care for Travellers Projects (PHCTPs), to provide in-person training for Traveller Community Health Workers to undertake a cross-sectional survey of 380 adult Travellers. 4. Collaboration with PHCTPs to undertake 20 semi-structured interviews with Travellers. 5. Conduct of semi-structured interviews with healthcare professionals to explore perceptions of barriers/enablers for Travellers engaging with the health system.

Lessons Learned: Working closely and collaboratively with our study partners, we gained valuable insights which enabled effective and efficient data collection across 8 counties, while exceeding our survey target sample size. Implications for Research: Collaborative, trusting, and respectful relationships are critical for all studies, but particularly when working with minority groups.

Conclusions: The study findings will inform policy for improved cancer outcomes among Travellers in Ireland.

Key messages:

- Formation of a collaborative and respectful relationship with the Traveller community has facilitated successful research.
- Traveller Community Health Workers (peer researchers) were key to the success of data collection.

Abstract citation ID: ckae144.2045
Comparison of hospital treatments of the Roma settlements' inhabitants in Slovenia

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Background: Roma ethnic minority in Slovenia was recognized as a vulnerable group with worse health indicators and significantly shorter life expectancy. The vast majority of Roma population in Slovenia have health insurance. We were investigating the use of hospital services in Roma population according to their age and comparing it with the rest of the population.

Methods: We determined the inhabitants of Roma settlements from the Slovenian register on residents. The data on hospital treatments used were from Slovenian national register on hospital treatments for the period 2018 to 2022. We compared different ratios according to certain hospital treatments within age categories of patients and co-pared those two groups. The frequency statistics, ANOVA and comparison of column proportion tests were used (p-value$<$0.005, 95% CI).

Results: Inhabitants of Roma settlements were more often treating in hospitals that rest of population. If comparing the frequency of hospital treatments between age groups only in Roma population, the percentage of hospital treatments steeply declines with age as well as the number of persons in age groups. The highest percentages and numbers of services are in the youngest age group of 0-15 years, and the lowest in the oldest group (75+). Therefore, significantly higher ratios of hospital treatments were detected in younger then in older age groups.

Conclusions: Roma children and youngsters (0-15 years old) had the highest rate of hospital treatments and it declined with the age. It was consistent with age pyramid of Roma as young population as well as emphasized care for children in culture. The steady decline rate of hospital treatments with age could be explain with delayed seeking of health care services in adult age and higher premature mortality that leads to smaller adult population. Additional and in-depth research is necessary to explain the root causes of higher premature mortality and use of primary and preventive health services.

Key messages:

- Higher use of hospital treatments was caused by higher morbidity. It is necessary to explore the leading causes of hospital treatments and premature mortality.
- It is necessary to explore the use of primary health care service, preventive service and level of health literacy of inhabitants of Roma settlements.

Abstract citation ID: ckae144.2046
Self-help groups for people with migration experience

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Background: Self-help groups as voluntary associations of people to jointly cope with illnesses or psychological problems are sometimes regarded as the fourth pillar of the health care system. Still, so far people with migration experience do not resp. less participate in self-help groups in Austria. The project aimed therefore on identifying related obstacles and solutions.

Methods: A mixed-methods approach was chosen: a systematic literature search; interviews, focus groups and workshops; including people with migration experience and experts. A concept for self-help groups was delevoped in a participatory way, piloted in Vienna and evaluated.

Results: The study confirmed, that the concept of self-help groups as they are usually implemented in Austria is not known among people with migration experience. But there is a great need for exchange among those with a chronic illness or their relatives. Success factors and obstacles are mainly related to the access to people with a migration experience and the way how such self-help groups are set up. Much time needs to be invested in developing a common understanding of the concept of a self-help group and in maintaining contacts. However, despite the of the personal benefit, the often stressful life situation of people with migration experience is an obstacle for continuous participation or even initiating a self-help group oneself.

Conclusions: The project showed, that, although the concept of self-help groups is often not known, people with a migration experience can benefit from it. But more support is needed than is usually provided by the established self-help organisations. A change in the understanding of self-help groups on the one hand and integrating such activities in services/associations working with migrants on the other hand could improve the access for people with migration experience to this important pillar of the health care system.

Key messages:

- Several obstacles hinder people with migration experience in participating in self-help groups in Austria, e.g. the concept itself is unknown to them.
- Implementing a specific concept for self-help groups with support by professionals can facilitate the access of this population group to an important part of the health care system.

Abstract citation ID: ckae144.2047
Heterogeneity in health and lifestyle among preschool children with migrant background in Sweden

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Background: Parental country of birth and socioeconomic status affect children's health, lifestyle, and access to care. But inequality patterns may vary depending on the outcome and indicator being studied. While prior studies have focused on single health outcomes, this study assessed the relationship between parental migrant status and a range of health and lifestyle indicators among 3-year-old children.

Methods: Using an outcome-wide approach, we analyzed data from cross-sectional population-based surveys of 3-year-old (2014-2018) in Northern Sweden, which included 9,099 children aged 33-42 months. The surveys were administered to parents. Logistic and linear regressions were performed to examine the association between parents' place of birth and outcome indicators. Additionally, we controlled for parents' income and education using multiple regression models.

Results: Children with at least one migrant parent were perceived by their parents to have poorer health (OR:1.5, CI:1.01-2.36) and more socio-emotional problems (OR: 2.8, CI: 2.20-3.59) compared to those with two Swedish parents. While there were no significant differences in estimated BMI, lifestyle indicators showed that these children consumed more sweets (OR:4.5, CI: 3.02-6.58), less milk (OR: 1.3, CI: 1.09-1.55), fewer vegetables (OR:1.6; CI: 1.22-2.05) and brushed their teeth less frequently (OR: 2.8, CI: 2.17-3.53). However, they spent more time playing outdoors on weekdays (OR:1.6, CI:1.22-2.00) and weekends (OR: 1.5, CI: 1.18-1.94), but screen time remained consistent between weekdays and weekends.

Conclusions: Parental migrant status has varying impacts on children's health and lifestyle, with some indicators showing worse outcomes for children with migrant parents compared to those with Swedish parents, while others do not. An outcome-wide approach is crucial for targeted actions to strengthen protective factors and mitigate risk factors, and ultimately reduce inequalities in early childhood.

Key messages:

- The link between parental migrant status and children's well-being is complex. Not all indicators show worse outcomes, inequality patterns vary based on the specific outcome and indicator measured.
- An outcome-wide approach is crucial to identify action areas for targeted interventions to reinforce protective factors and mitigate risk factors, and ultimately reduce inequalities during childhood.

Abstract citation ID: ckae144.2048
Conversation circles – an inventive way to talk about and address migratory related mental health

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Refugees in European countries face psychological stressors stemming from pre-, peri- and post-migration experiences. In Sweden, a mental health promotion program for newly settled refugees "Ways Forward - After the escape", was tried out to mitigate the consequences of negative migratory experiences. The program included training of course leaders and implementation of conversation circles for participants, i.e., short in-depth courses for smaller groups led by a trained leader. The objective of the program was to equip civic communicators working within the Introduction program for refugees with the necessary skills to lead conversation circles on mental health in cities in the south of Sweden. During 2020-2023, 43 course leaders were trained and 55 refugees participated in conversation circles. The course leader training included 50 hours of training on themes of the program "Ways Forward"; health and well-being, loss and identity, grief and forgiveness, reconciliation and acceptance, stress and stress management, trauma and trauma-conscious care. The conversation circles for participants were given in 3-hour modules x 10 occasions.

1. How did the course leaser perceive the utility of the training for their work with the target group? 2. In what ways has the intervention assisted the participants in navigating their mental and well-being in Sweden? The results showed that course leaders acquired new knowledge and practical skills and tools to lead reflective conversations about mental health related to migration. Participants reported a higher awareness of mental health issues, less stigma, trying out new coping techniques and increased motivation to seek help. Short training courses for civic communicators on migratory mental health increased knowledge and gave new skills and tools to lead conversation circles. Newly settled refugees reported higher awareness, new tools and less stigma to talk about mental health following participation in conversation circles.

Key messages:

- Short training courses on mental health related to migration increased knowledge and gave new skills and tools to lead conversation circles.
- Newly settled refugees reported higher awareness, new tools and less stigma to talk about mental health following participation in conversation circles.

Abstract citation ID: ckae144.2049
Discrimination against migrants: does social capital moderate harmful effects on mental health?

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The harmful mental health effects of perceived discrimination are well established. Yet, the role of regional-level social capital in mitigating these effects remains underexplored. Using data from the German Socioeconomic Panel (SOEP; 2010-2021) we apply random effects models to assess the effect of perceived discrimination on mental health (mcs subscale of the SF-12) adjusting for individual socio-demographic factors and regional-level socioeconomic deprivation. We assess interaction with general social capital (civic organisations, electoral turnout, generalised trust) and migrant-specific resources (proportion of non-nationals and share of far-right votes). We juxtapose non-refugee migrants ($n = 13478$) with refugees subject to mobility restrictions ($n = 5558$) to assess for bias introduced by selective mobility into regions. In the non-refugee sample, we confirm negative effects of frequent discrimination experiences on mcs (ß: -3.74; 95%CI: -4.39, -3.08). Moderation analyses show insignificant results for general social capital, but a negative interaction effect of proportion of non-nationals (ß: -0.71; 95%CI: -1.34, -0.08). Analyses among refugees confirm the negative effect of discrimination on mcs (ß: -6.29; 95%CI: -7.49, -5.08) and the moderating effect of the proportion of non-nationals (ß: -1.63; 95%CI: -2.78, -0.48), as well as showing a positive moderation effect for generalised trust (ß: 0.84; 95%CI: 0.11-1.57). Results demonstrate the negative implications of living in areas with a high proportion of non-nationals for migrants experiencing discrimination, which may be explained by the higher marginalisation of migrants in these areas and increased service access barriers. The absence of a moderation effect of general social capital appears to be the result of selection bias, with positive effects of generalised trust seen for refugee migrants.

Key messages:

- Ethnic discrimination affects mental health of refugee and non-refugee migrants.
- The effect of discrimination on mental health are stronger in areas with higher proportion of non-nationals.

Abstract citation ID: ckae144.2050
Shifting focus - the need to prioritise an inclusive public health approach to trauma

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Since 2017, the Welsh government has prioritised the development of a Public Health Approach to understanding the impact of Adverse Childhood Experiences. Taking the work of Bellis et al, and the population level research to understand the prevalence of ACEs, and associated risks (Bellis etc al, 2015), the ACE Hub Wales was established to coordinate a multi-agency, cross sector approach to preventing, tackling and mitigating the impact of adversity in childhood. The Hub developed its approach to advocate for more public awareness of the life course risks to health if the right support was not accessed or available to children, such as poor mental health and chronic conditions such as type 2 diabetes and heart disease in adulthood. From 2021 there has been a dramatic shift to attempting to understand the experiences, and unmet needs, of children and people who have come to Wales to seek sanctuary, migrant women who have no recourse to public funds, and people experiencing racism and discrimination. In 2021, the ACE Hub Wales co-produced a Wales national trauma-informed practice framework including a set of principles placing inclusion at the heart of the approach in Wales; shining a light on the need to have a cultural, intergenerational and gender-based understanding of adversity and trauma which links directly to, informs and supports the government's ambitions to be a nation of sanctuary and to be anti racist by 2030. To continue to ignore the experiences of adversity and trauma by people of colour, and Gypsy, Roma and Traveller people; is to perpetuate the health inequity experienced in healthcare, and justice systems. Wales has committed to developing wisdom, not just knowledge, that means that a public health approach is inclusive of all of our communities in Wales.

Key messages:

- The experiences of racialised ad minoritised communities from population studies of adversity and trauma is traumatizing.
- Understanding the life course impact of adversity and trauma must include the experiences of racism and discrimination to be inclusive and trauma-informed.

Abstract citation ID: ckae144.2051
Experiences of discrimination in Finnish healthcare services

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Background: It has been found that foreign-born people report more discrimination than the general population. This study examines experiences of discrimination in Finnish healthcare, with a focus on individuals with a foreign background.

Methods: Two nationally representative cross-sectional data sets were used: MoniSuomi ($n = 7838$; response rate 44.1%) and Healthy Finland Surveys ($n = 28154$; response rate 46.3%). The outcome variable, experiences of discrimination, was predicted by means of stepwise logistic regression models covering (1) socioeconomic factors, (2) factors related to healthcare service need and use, and (3) migration-related factors.

Results: In healthcare services, migrants experienced discrimination more than twice as frequently as the general population (8.9% versus 3.6%, 95% CI = 8.0-9.8, 3.2-4.1). According to regression models, relevant factors were insufficient income, being female, studying as the main occupation and poor mental and physical health. Foreign background was not independently associated with discrimination. However, higher educational attainment, chronic disease, and use of occupational healthcare services increased the likelihood of experiencing discrimination only among those of foreign background and showed the opposite trend for the general population. All migration-related factors increased the risk of discrimination.

Conclusions: The findings underline the need for training on explaining the service system, overcoming language barriers, and working with forced migrants. The occupational healthcare workforce would particularly benefit from these interventions. The results inform the development of professionals' training.

Key messages:

- Migrants experience higher levels of discrimination in healthcare compared to the general population. Multiple factors explain this difference.
- Healthcare professionals require training to better inform patients about the service system, to improve communication and to address the situation of forced migrants.

Abstract citation ID: ckae144.2052
Co-producing COVID-19 health education resources with ethnic minority communities in the UK

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Background: Effective communication of relevant health information is challenging in elderly minority ethnic groups due to language barriers and cultural differences. During the COVID-19 pandemic, much of the public health guidance around COVID-19 was in dominant languages, lacking cultural nuance. This study aimed to co-produce culturally, linguistically, and age-appropriate health education resources in COVID-19, tailored to the needs of older adults from ethnic minority backgrounds.

Methods: This study involved three stages: 1) Semi-structured interviews with Indian and Nepalese older adults (≥ 65 years), their families (≥ 18 years) and healthcare professionals (HCPs) (≥ 18 years) engaging with these communities; 2) Co-production of COVID-19

information resource, and c) Implementation of co-produced resources among the communities.

Results: 24 participants took part in the study. There was wide variation in participants' knowledge of COVID-19; some were knowledgeable, while others had limited information. Participants highlighted the need for information in multiple formats and languages and discussed the importance of culturally avenues for information dissemination. Drawing on these findings and two co-production workshops held with the stakeholders, culturally sensitive information leaflets (electronic and paper) were co-prodcued in Hindi and Nepalese using age-appropriate images and infographics. The leaflets were distributed widely to the Nepalese and Indian communities, healthcare trusts and local authorities using the networks of community members, HCPs, and religious leaders.

Conclusions: The project highlights the significance of participatory methods in the development of culturally relevant public health interventions applicable to the cultural practices of ethnic minority groups. The co-production approach in this study could influence information provision for future public health campaigns for other marginalised groups.

Key messages:

- Health information should be co-produced with a representative sample of the community members and relevant stakeholders.
- There is a need on an ongoing basis to identify and fill the information gaps, address misinformation and develop targeted messages.

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Young North African migrants in Europe: exploring their health and the adequacy of health services

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Background: Over five million people from North Africa (NA) lived in Europe in 2019, including youth characterized by intense transborder mobility, precarious living conditions and high-risk behaviours such as prostitution and illegal activities. This population challenges health professionals and institutions ability to deliver medical care and health information remains scarce. This scoping review aims to better understand NA adolescents and young adult (aged 12-25) health status, access to and use of healthcare.

Methods: Following the Arksey and ÓMalley process and based on the Population-Concept-Context framework, we searched the CINAHL, Cochrane, Embase, PubMed, PsycINFO and Web of Science databases for peer-reviewed articles and non-index reports. We systematically tracked references.

Results: Initial search returned 5319 articles of which we included 13 (2 Spanish, 2 French, 3 German). All reported about observational studies. Nine of 13 papers included males only and 11 focused exclusively on unaccompanied minors. They reported about physical health conditions related to poverty such as dental caries, iron deficiency and dermatological conditions (n = 5) or infectious diseases, notably tuberculosis (n = 7). Trauma-related mental health conditions were frequently reported (n = 7), including post-traumatic stress disorder and alcohol, cannabis or benzodiazepines harmful use with frequent overlapping presentations. Three studies discussed multi-pronged barriers to healthcare, emphasizing the importance of transcultural approaches and attention to social factors.

Conclusions: Embedded into multiple factors of vulnerability, poor physical and mental health is commonly associated with young NA migrants. Evidence is limited in scope and quality notably about females and young adults. There is an important gap about optimal strategies to deliver tailored health services, notably to respond to complex mental health needs.

Key messages:

- The complex health needs and barriers to care of young NA migrants in Europe are not adequately documented, understood, and addressed.
- Particular attention should be paid to trauma-related mental health conditions.

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Changes in integration and wellbeing by educational background among migrants in Kristiansand

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Background: Integration levels and wellbeing of newly arrived migrants change according to their everyday activities in their new home country. Although migrants have very different educational backgrounds and expectations regarding work in Norway, the compulsory educational activities are the same for all, disregarding their educational background.

Aims: To examine the changes in integration and wellbeing among newly arrived migrants participating in a compulsory integration program in Norway, according to their educational background.

Methods: As part of the Integration for Health project (I4H) we collected information from participants in Kristiansand municipality through a self-filled questionnaire in 2023 (N = 102) repeated six months apart, including questions from the Immigrant Policy Lab Index and the WHO-5 Well Being Index. For both screening tools, higher scores indicate better integration and wellbeing. Information on educational background was dichotomized into either health or non-health (natural and technical) sciences, using health sciences as the reference. We used generalized estimating equations to calculate relative risks (RR) with 95% confidence intervals (CI) adjusted for age and gender.

Results: The mean age was 34 years (SD 8.3) and 59% were women. Mean residency time was 3 years (SD 0.14). In terms of education, 14% had health sciences, and 86% had other educational backgrounds. We did not find change in wellbeing over the six-month period (RR 1.0 (95% CI 0.9-1.1), and this trend was similar for both educational groups (RR 0.9 (95% CI 0.8-1.1). Integration score slightly increased after six months (RR 1.0 (95% CI 1.0-1.1). However, there was no difference by educational background (RR 1.0 (95% CI 0.9-1.0).

Conclusions: Changes in wellbeing and integration among participants in the compulsory introductory program with short residency time, do not seem to vary by educational background in a six-month period.

Key messages:

- Schools and introductory programs in the host country can be used as a arena to enhance both the integration and wellbeing of newly arrived migrants.

- Strengthening migrants' educational opportunities in the new host country is also of importance.

Abstract citation ID: ckae144.2055
Mental health trajectories among Syrian refugees in Norway: A longitudinal cohort study

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Background: Refugees encounter various risk factors that can affect their mental health throughout the migration process. However, while most studies focus on mental health challenges at the time of resettlement, only a few explore these changes over an extended period. This study aims to explore changes in mental health among Syrian refugees in Norway and to identify influencing factors.

Methods: This is a prospective cohort study using data from CHART and Integration for Health studies, which followed Syrian refugees granted settlement in Norway. Data collection took place in Lebanon between 2017-2018 (baseline), and at one- and four-years post-arrival in Norway. Assessments for anxiety/depression and post-traumatic stress disorder (PTSD) were conducted using the Hopkins Symptom Checklist (HSCL-10) and the Harvard Trauma Questionnaire, respectively. Mixed-effects logistic regression analyzed temporal changes, with results presented as odds ratio (OR) with 95% confidence intervals (CI). The study also explored the effect modification of outcomes by the following baseline factors: age, gender, education.

Results: A total of 132 participants were included in all three data collection points. There was a decrease in the proportion of participants reporting anxiety/depression (from 30% to 28%, OR 0.1, 95% CI 0.1 - 0.2) four years post-settlement. The proportion of participants reporting PTSD symptoms decreased one year after settlement (from 4% to 3%, OR 0.3, 95% CI 0.1 - 0.7), but increased to 4% four years after arrival, showing no improvement from baseline (OR 0.8, 95% CI 0.4 - 2.0). No interactions were observed between changes over time and baseline variables.

Conclusions: After four years in Norway, Syrian refugees reported improvement in anxiety/depression, but PTSD symptoms worsened. This highlights the need for ongoing support that extends beyond the initial phases of resettlement.

Key messages:
- Refugees face various risk factors that affect their mental health throughout the migration process.
- Ongoing mental health support for refugees is essential, beyond the initial resettlement phase.

Abstract citation ID: ckae144.2056
An observational study in Roma women in Greece: measuring health factors in an understudied group

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Background: The Roma have always been one of the most vulnerable and at the same time understudied minority groups in Europe, living under difficult conditions and experiencing discrimination. The aim of the present work was to summarize the health and lifestyle profile of Roma women living in various regions of Greece.

Methods: A multi-center, observational study was implemented in April-June 2022, in the context of a national program entitled "Empowering Young Roma Women in matters of health, prevention and human rights: a new methodological approach". Roma women, living in 5 areas of Greece, and health professionals working with Roma groups were considered as eligible to participate. A two-step, methodological approach was followed: a. qualitative study with Focus Groups and b. questionnaire-based survey.

Results: In total, n = 41 participants in FGs, and n = 99 responders in survey were recorded. 40% of participants were smokers (>10-15 cigarettes/day). Main quitting reasons, were "to set a good example and cost'. Increased consumption of ultra-processed foods and beverages, low plant-based foods intake, frequent breakfast omission and eating-out were reported by the vast majority of participants. Only 15% of responders had undergone typical, gynecological, screening tests while 1 in 5 responders used contraception. Regarding vaccinations, even if about 8 in 10 women seemed to comply with the obligatory vaccines for their children, a high vaccination reluctancy in 70% of the study sample was recorded in case of vaccination in adulthood.

Conclusions: This study stands one of the very few that underscore the vulnerability of Roma women in terms of poor health literacy, unhealthy lifestyle behaviours and low motivation to typical preventive measures. Improving access to primary health care services and tailored, culturally sensitive training is crucial.

Key messages:
- Social inclusion of the increasing population of Roma women is crucial.
- Health promotion, taking into consideration Roma women's special needs, shall be a decisive factor of this process.

Abstract citation ID: ckae144.2057
Health status by time of arrival among Ukrainian refugees in Norway

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Background: Over 75000 refugees from Ukraine have come to Norway since February 2022. Previous studies show that the refugees have poor health for several domains, and reports suggest that those fleeing Ukraine at later stages have even poorer health. However, more systematic knowledge is lacking. This study aimed to measure self-reported health in a sample of adult refugees from Ukraine according to month of arrival to Norway in 2022.

Methods: Data were collected via an online, digital questionnaire, in a cross-sectional study design between 28.10.22 - 31.01.23. Recruitment was via multiple potential physical and social media contact points, including asylum reception centres, municipalities, non-profit organisations, and Facebook groups for refugees in Norway. The survey included self-reported health outcomes: overall health, oral health, presence of long-term illnesses or disabilities, and a short version of Hopkins Symptom Checklist (HSCL-5).

Results: Among 727 respondents, 82% were female, 65% aged 30-49 years, 69% had higher education and 53% responsibility for children in Norway. 383 arrived February-April (T1), 200 May-August (T2) and 144 September-December (T3). Compared to T1, later periods had higher proportions of males, a younger age distribution and lower proportions with higher education. Proportions reporting poor/very poor overall health, presence of long-term illness, and long-term disability were highest in T3. Oral health and HSCL-5 showed an opposite trend, with lower proportions reporting poorer health in both later periods. Respondents in T3 were still more likely to report poor health and long-term illnesses after adjusting for sex, age and education.

Conclusions: Respondents arriving later in 2022 generally reported poorer long-term health, but less psychological distress than those arriving earlier. These findings may help to inform planning of health services to refugees from Ukraine, especially in areas receiving large numbers of refugees.

Key messages:

- Refugees from Ukraine arriving earlier to host countries appear to have generally better health compared to those arriving later.
- Refugee health services should plan and scale accordingly when large numbers of refugees are expected as a result of international crises.

Abstract citation ID: ckae144.2058

Toolkit for Translating Health Information: A Resource for Crisis Health Communication and beyond

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Issue/Problem: Translating health information accurately and effectively presented a critical challenge in crisis communication during the pandemic. In linguistically diverse contexts, ensuring access to vital health information is essential for promoting public health outcomes. Addressing this issue, we summarized our experience in a comprehensive toolkit for translating health information, aiming to enhance accessibility, reliability, and relevance across various settings and countries.

Description of the Problem: Our initiative responds to the need for standardized translation practices in the dissemination of health information in Norway. Translation practices in the health sector often lack standardization, leading to inconsistencies, inaccuracies, and risk of less comprehension. Questions guiding our project included: How can lessons learned from the extensive translation work done during the pandemic improve the accuracy and consistency of health information translation in general?

Results: We have developed a practical toolkit tailored to diverse linguistic and cultural contexts. Our toolkit summarizes lessons learned from extensive translation work during the pandemic, supported by validation from experts in the field of translation. The toolkit has been welcomed by other organizations, which underscores the potential of standardized translation tools to mitigate barriers to health communication in multilingual settings.

Lessons: Lessons gleaned from translating information during the pandemic highlight the importance of evidence-based translation practices, knowledge of the target demographic and the integration of cultural considerations into translation workflows. Furthermore, our experience underscores the value of inclusive approaches in development, promotion and distribution of the translated materials.

Key messages:

- Standardized translation tools can increase access to vital health information, fostering equitable health outcomes.
- Collaboration and inclusive approaches are key drivers in advancing standardized translation practices for effective health communication.

Abstract citation ID: ckae144.2059

Empowering Young Roma Women in matters of health and primary care: an innovative training program

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Background: Roma communities are rather diverse groups with different level of knowledge, beliefs and motivations in relation to their health. Raising awareness and self-efficacy of these individuals is a challenging field in the EU public health agenda.

Objectives: To address this challenge, the program entitled "Empowering Young Roma Women in matters of health, prevention and human rights: a new methodological approach" was developed with the aim to empower Roma women in terms of health and prevention topics pilot testing different educational methods. A two-step co-design approach was performed to determine the training content, tools, methods. The training was implemented in 5 areas throughout Greece (Volos, Chalkida, Thiva, Agia Varvara, Zefyri) in Jan-Oct 2023, including 3 phases: a. Train-the-trainers, b. Training the Roma women and c. Training evaluation.

Results: The educational material developed for health and prevention included 4 units (gynaecological health issues, vaccinations, smoking and nutrition). Each unit consisted of a theoretical background to develop the material, a presentation for future trainers, a presentation for trainees, a brochure, and a poster. For the training a new methodological approach was tested i.e. a health professional or Roma women (after being trained) to deliver the training. In total, 548 pre-post questionnaires were collected. Most trainees, understood the content of the training, acquired new knowledge and found the information interesting and possible to include in their daily life. 80% trainees expressed their satisfaction with the overall presentation. Regarding knowledge improvement based on the type of trainer only a slightly greater degree of improvement was observed for Roma trainers.

Conclusions: It is crucial to develop culturally appropriate health interventions by directly working with communities, to understand their particular needs, and to ensure they receive the information needed to make informed decisions.

Key messages:

- Maintaining and promoting health is a decisive factor of social inclusion.
- Tailor-made training of ethnic minorities shall be an integral part of the EU public health agenda.

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Use of specialist health care among Norwegian-born children with one immigrant parent

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Background: An increasing number of children grow up with one immigrant and one native born parent. We know little about health in this group. Our aim was to compare the risk of receiving diagnoses of physical health conditions in specialist health care among Norwegian-born children with one immigrant parent compared to Norwegian background children.

Methods: Data from Medical Birth Registry of Norway were linked to data from the Norwegian Patient Registry (diagnoses in specialist health care), and Statistics Norway (parental country of origin, education, and household income). We estimated hazard ratios (HR) with Cox proportional hazard regressions, with Norwegian background children as reference category, adjusted for sex, birth year, parental education, and household income.

Results: Children with an immigrant parent had lower hazards than Norwegian background children of diagnoses of most types of infections, but higher hazards of some, including tuberculosis, and skin infections. They also had higher hazards than Norwegian background children of receiving diagnoses of obesity and other nutritional deficiencies, and skin diseases, but lower hazards for other conditions, including chronic lower respiratory disease, disease of the digestive system, and visual or hearing impairment. The hazards of diagnoses of any neurological condition, sleeping disorders and epilepsy were lower among children with an immigrant mother, but higher among those with an immigrant father. Differences between children with one immigrant parent and Norwegian background could not be explained by differences in parental education or household income.

Conclusions: Children of one immigrant parent do not overall use specialist health care for physical health issues more than other children.

Key messages:

- Awareness of diagnoses given most frequently to children of one immigrant parent can help promote timely diagnoses and adequate use of services, which is important for prevention of later illness.
- Barriers to health care use among children of immigrants should be further researched.

Abstract citation ID: ckae144.2061

Impacts of an interpretation fee on immigrants' access to healthcare: A Danish survey study

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Background: In 2018, a fee for healthcare interpretation was introduced for immigrants living in Denmark for more than 3 years to incentivize learning Danish faster. The fee entails out-of-pocket costs ranging from 26-225 EUR per consultation, outpatient visit, or hospital admission. Little evidence is available on how immigrants experience impacts of the fee on their access to healthcare. The study aims to address this gap.

Methods: Using survey data collected among newly arrived immigrants ($n = 486$) at 26 cluster-randomly selected language schools in 2021, we analysed prevalence and socio-demographic background of immigrants reporting interpretation needs, and self-reports about whether the fee had caused immigrants to refrain from seeking healthcare, using ad hoc interpreters, and trying to learn Danish faster.

Results: In the study population, 19% (95% C.I. 14-26%, $n = 95$) reported interpretation needs. Refugees and their families (OR: 10.2, 95% C.I. 5.3-19.7) more often reported interpretation need compared with EU/EEA immigrants, as did immigrants with low education (OR: 1.9, C.I. 1.2-2.8), low income (OR: 2.6, C.I. 1.6-4.5) or poor self-perceived health (OR: 3.2, C.I. 1.1-9.2), adjusted for gender, age, region of residence, and length of stay. Among immigrants needing interpretation, 42% (C.I. 32-53%, $n = 69$) reported having refrained from seeking healthcare due to the fee, 73% (C.I. 55-86%, $n = 119$) using ad hoc interpreters, and 77% (C.I. 59-89%, $n = 126$) trying to learn Danish faster.

Conclusions: Findings suggest that the policy aim of incentivizing resettlement country language acquisition is partly met, but that the fee has unintended consequences in terms of hampered access to healthcare and increased use of ad hoc interpreters, raising concerns about unmet health needs and poorer quality of care, especially for vulnerable immigrants. Potential benefits of the policy should be carefully evaluated against severe negative impacts on immigrants' access to healthcare.

Key messages:

- Healthcare interpretation fees appear to be incentivizing acquisition of the resettlement language, but at the same time severely hamper access to care.
- The fee appears to disproportionately affect vulnerable immigrants, including refugees and their families and immigrants with low education, low income, and poor health.

Abstract citation ID: ckae144.2062

Risk of eating disorders and body image in adolescents in Belgium: is migration status a modifier?

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Background: The risk of eating disorders (ED) has been linked to body image (BI) dissatisfaction in adolescents. In addition, the origin and host country culture may influence BI dissatisfaction. Our objective was to assess the modifying effect of migratory status on the association between BI and risk of ED in Belgium, a setting characterized by a large proportion of migrant adolescents.

Methods: In the 2022 cross-sectional "Health Behaviour in School-aged Children" (HBSC) study in French-speaking schools, 7,267 adolescents aged 12 to 20 self-completed questionnaires. Risk of ED was determined by an Eating Attitude Test (EAT-7), score ≥ 5. BI was categorised into 3 groups: "too thin", "about the right size" and "too fat". Migratory status was divided into "native", "2nd generation" and "1st generation" migrants. The association between BI and ED was estimated using logistic regressions adjusted for socioeconomic and psychosocial characteristics. After the inclusion of the "migration*BI" interaction term, migration-stratified logistic regressions were conducted.

Results: Overall, 13.0% of students were at risk of ED. Percentages of ED were 15.7% among those who perceived themselves as "too fat" (vs. "about the right size": aOR=1.67 [95%CI: 1.34-2.08]) and 19.4% in the "too thin" group (aOR=3.36 [2.54-4.45]). Despite non-significant interaction terms, perceiving themselves as "too fat" (vs. "about the right size") was not associated with the risk of ED in 1st generation migrants (aOR: 1.24 [0.67-2.29]). Compared with the overall estimation, it was lower in 2nd generation migrants (aOR: 1.43 [1.00-2.03]) while it was slightly higher in natives (aOR: 1.95 [1.45-2.62]).

Conclusions: These findings suggest complex interrelations between BI and risk of ED according to migratory status in adolescents with potential underlying mechanisms involving cultural norms. Promoting positive BI as a possible way for preventing the development of eating disorders need to be further investigated.

Key messages:

- This study shows differences of body image dissatisfaction according to the migratory status in adolescents, inducing potential impacts on the risk of eating disorders.

- Better understanding differences in body perception related to cultural background could help prevent risk of eating disorders in adolescents, by promoting positive body image for example.

Abstract citation ID: ckae144.2063
Immigrants and nurses' perspectives on the barriers in using health promotion services in Finland

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Background: The incidence of chronic diseases and health disparities is high among immigrants. Lack of access to health promotion services targeting the needs of the immigrant population was reported. This study aimed to explore the perspectives of immigrants and nurses on the barriers to using health promotion services in Finland.

Methods: A qualitative study with 12 focus group interviews was conducted in various cities across Finland. A total of 69 participants, including 46 adult immigrants and 23 registered nurses, were selected through purposive sampling. A semi-structured interview was used. Interviews were transcribed verbatim and analyzed using content analysis.

Results: The analysis generated four themes: insufficient individual factors (i.e., knowledge, skills), restraining cultural norms (i.e., unhealthy cultural habits, gender disparities), inadequate health promotion services (i.e., lack of resources, structural limitations), and negative environmental impacts on health behavior (i.e., sweet foods and beverages, cold weather).

Conclusions: The findings suggest reinforcing health promotion services to prevent chronic diseases among the immigrant community. Providing health education resources that are culturally tailored helps improve immigrants' knowledge to make healthier decisions in their own lives after migration. Moreover, it is recommended to introduce the health care system of the host country and healthy habits during the integration process, along with language training.

Key messages:
- Improving equity in using health promotion services for immigrants requires reforms.
- More strategies are needed to prevent chronic diseases among immigrants in Finland.

Abstract citation ID: ckae144.2064
Understanding and addressing the needs of refugee and asylum-seeking children and young people

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Issue/problem: Europe is home to an increasing number of refugee and asylum-seeking children at risk of health and wellbeing needs due to their life experiences. They are frequently marginalised, impoverished, and face barriers accessing the healthcare and support they need. Bevan, an English social enterprise providing health and wellbeing services to Inclusion Health populations, carried out a needs assessment of migrant children registered at one of its General Practices to determine challenges and opportunities to ensuring their right to health. The knowledge and learning generated is relevant across sectors; organisations and geographical boundaries.

Description of the problem: The assessment included a literature review, audit of child new patient health checks, service mapping, multi-agency stakeholder interviews and a consultation event with unaccompanied minors. Findings informed Bevan's Migrant Children and Young People (CYP) Strategy, local service development and system-wide recommendations.

Results: Key areas of concern identified included mental health; safeguarding; development; nutrition; and inter agency working. Challenges to meeting needs were complex and included national policies, poor provider understanding of rights and entitlements, language and cultural barriers, health service waiting lists, housing and silo-working.

Lessons: Responding to findings Bevan invested in an in-house CYP mental health service and CYP social prescriber, opened a drop-in clinic and wellbeing service for unaccompanied minors, and initiated orientation and health information sessions for new arrivals with peer advocate support. Bevan now hosts a city-wide cross-sector Migrant CYP stakeholder group and collaborates with regional and national partners to develop resources to promote the health of migrant CYP.

Key messages:
- The needs assessment enabled development of a responsive integrated service for migrant CYP that meets their health needs and addresses their social determinants of health.
- The Migrant CYP stakeholder group has improved inter-agency working, helped identify service gaps, increased advocacy opportunities, and facilitated co-creation of solutions to meet population needs.

Abstract citation ID: ckae144.2065
Multidisciplinary approach to asylum seekers health assessment: a 5-year experience in Modena, Italy

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Background: Asylum seekers' well-being represents a global health issue. They face significant challenges to their physical and mental health due to their migratory path. In the Modena province (Northern Italy), a multidisciplinary approach has been applied to the care of asylum seekers by Department of Public Health (DPH), with a team of specialists in infectious diseases, dermatology, gynaecology, obstetrics, psychology and preventive medicine. Asylum seekers receive a first visit, including medical and psychological assessment and screening for infectious diseases. Ad hoc pathways are also active for asylum seekers who need secondary-level care. This study aims to investigate the health status of asylum seekers referred to Modena Centre.

Methods: This cohort study enrolled asylum seekers hosted in Modena between November 2018 and May 2023. During the first visit, personal and anamnestic data were collected aided by cultural mediators, along with clinical assessment. Furthermore, Tuberculin-Skin-Test (TST) and blood tests for HBV-HCV-HIV-Syphilis were performed.

Results: A total of 646 migrants were included, 94% were males with a median age of 26 years (range: 15-50), the majority from Bangladesh (39%). Females were mostly from Ivory Coast (36%), median age of 30 years (range: 17-45). Most conditions were treated at the primary care level and were related to cutaneous disease (22%), only 11% of subjects required second-level diagnostics. Positive TSTs were 41% (N = 265). Of them, 55.5% (N = 147) also tested positive for QuantiFERON-TB. Screening for infectious diseases revealed positivity rates of 4% for HBsAg, 1% for HCVAb, 0.8% for HIV and 1.4% for TPPA+RPR.

Conclusions: The multidisciplinary approach is the innovative and strength point of this protocol for asylum seekers' health ensuring prompt management of pathologies after their arrival. Moreover, data collection is useful for improving intake services and implementing public health programs for vulnerable individuals.

Key messages:

- The innovation of this protocol for asylum seekers' health lies in its multidisciplinary approach.
- Clinical data collection will support health policies' choices to protect vulnerable individuals.

Abstract citation ID: ckae144.2066
Determinants of health among Ukrainian refugees in Germany: comparison with other refugee groups

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Background: 6.5 million Ukrainian refugees have been displaced globally since 2022, with 1 million seeking asylum in Germany. Little is known about the health determinants for this group, limiting the evidence base for policy intervention.

Methods: We use a nationally representative survey of adult Ukrainian refugees in Germany (IAB-BiB/FReDA-BAMF-SOEP study; n = 5943), conducted in 2023, to analyse the effect of sociodemographic, pre-migration (experienced war intensity, traumatic experiences) and post-migration factors (time since arrival, accommodation, social networks) on self-rated health using multiple logistic regression. We contrast these findings with estimates of identical models obtained from a subset of the IAB-BAMF-SOEP-sample of non-Ukrainian refugees within one year of arrival (n = 1195).

Results: In the Ukrainian sample, post-migration factors are particularly critical for health, with those experiencing discrimination (OR 1.83; 95%CI: 1.51,2.21) and social isolation (OR: 2.70; 95%CI: 2.23, 3.28) affected by ill health, while those with high German proficiency (OR 0.34; 95%CI: 0.18, 0.64) and contact with Germans (OR: 0.66; 95%CI: 0.53,0.83) are protected. Pre-migration factors do not affect self-rated health. Among refugees from other countries of origin, post-migration factors are not associated with health within the first year of arrival, with exception of social isolation (OR: 2.03; 95%CI: 1.32,3.13).

Discussion: Despite the EU Temporary Protection Directive, the health of Ukrainian refugees in Germany is shaped by adverse post-migration circumstances. While other refugee groups may have had riskier escape journeys and worse arrival conditions, this is unrelated to self-rated health in the first year. This underscores the importance of considering pre-migration contexts when evaluating subjective health. Outreach services, communication campaigns and the expansion of medical interpreting services are needed to ensure access to the health system.

Key messages:

- Despite the EU Temporary Protection Directive, the health of Ukrainian refugees in Germany is shaped by adverse post-migration circumstances.
- Outreach services, communication campaigns and the expansion of medical interpreting services are needed to ensure access to the health system.

Abstract citation ID: ckae144.2067
Variations in access to acute care services by immigrant background and sociodemographic factors

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Background: The Emergency Medical Communication Center (EMCC) plays a vital role in the medical emergency response system by triaging contacts, notifying local physicians, and providing medical advice. The utilization of acute care services and the subsequent care pathway by individuals with immigrant background remains unclear in the Norwegian context. This study aims to investigate whether disparities exist in the acute care pathway for patients with different sociodemographic background who use ambulance services.

Methods: We examined all code red ambulance dispatches for life-threatening emergencies in 2021 in Norway. These ambulance dispatches were linked to primary health care and specialist health care contacts to trace patient pathways and outcomes. Statistical analyses were conducted using linear regression models, adjusted for patient characteristics, such as immigrant background, age, sex, municipality of residence, living condition, socioeconomic status, comorbidity and cause of emergency contact.

Results: Preliminary crude findings indicate that patients with immigrant background are overrepresented in the groups receiving acute primary care only and underrepresented in the groups transferred directly to specialist health care, within 8 hours after ambulance arrival at the patients' location.

Conclusions: The preliminary results suggest challenges for the EMCC in triaging patients with immigrant background, but further research is needed to explore potential systematic differences. This study aims to improve understanding of disparities in access to acute care and inform targeted interventions to optimize resource allocation in emergency departments.

Key messages:

- This study may improve understanding of disparities in access to acute care in Norway.
- This study can inform targeted interventions to improve resource allocation in emergency departments.

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COVID-19-related worries: A longitudinal study comparing migrants and non-migrants in Norway

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Background: Health- and economic-related worries during the COVID-19 pandemic contributed to worsening of mental health, particularly affecting migrants in vulnerable situations. However, this differential impact was only clear some months into the pandemic, and there is little evidence about any differences in health and economic worries between migrants and non-migrants as the pandemic developed. To close this knowledge gap, we assessed the changes in COVID-19-related worries reported by migrants compared to non-migrants in Norway throughout the pandemic.

Methods: Our study analyzed data from three time points (April-20, January-21, March-22) for 25,305 participants of the Bergen in Change study, including 509 (2%) migrants from Asia, Africa, or Latin America (LATAM), and 1250 (5%) migrants from other regions. Worries were assessed using questions on COVID-19 infection fear, job security, and economic stability. Analysis methods included descriptive analysis, chi-squared, Sankey plots, and logistic regression, adjusting for age, gender, education, and type of work.

Results: Migrants from Asia, Africa and LATAM reported health worries more often than non-migrants [OR (95%CI) 1.9 (1.3-2.8)] without clear changes over time, 0.9 (0.7-1.3). Migrants from Asia, Africa, and LATAM, as well as from other regions, also reported economic worries significantly more often than non-migrants [3.1 (2.5-3.9) and 2.1 (1.8-2.4) respectively] at baseline. Each additional year into the pandemic increased the odds of economic worries by a factor of 1.3 (1.0-1.6) for migrants from Asia, Africa, and LATAM compared to non-migrants. The odds ratio for migrants from other regions over time was stable, 1.0 (0.9-1.1).

Conclusions: Migrants, especially those from Asia, Africa, and LATAM, reported more pandemic- related worries than non-migrants, and this persisted over time. Identifying and understanding these worries could guide preventive measures to enhance mental health in migrant population.

Key messages:

- Throughout the pandemic, migrants reported more COVID-19-related worries than non-migrants, a trend that persisted over time and was greater among migrants from Asia, Africa, and Latin America.
- Identifying the differential impact of COVID-19 on migrants' groups and understanding the factors involved is essential for guiding healthcare interventions to improve migrant health.

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Molecular transmission clusters in newly HIV-1 diagnosed migrants in Portugal from 2014 to 2019

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Background: Portugal has an important HIV burden with a total of 804 diagnosed cases in 2022. Migrants remain a significant source of HIV infections, with 45% of newly reported cases. We aimed to evaluate the characteristics of HIV-1 molecular transmission clusters (MTCs) among migrants followed in Portugal, diagnosed between 2014 and 2019.

Methods: 265 migrants, newly HIV-1 diagnosed were included in the BESTHOPE project with clinical, socio-behavioral and genomic data. Pol nucleotide-based phylogenetic analyses were used to infer HIV-1 MTC. Those were constructed using ClusterPickerGUI_1.2.3 considering SH-aLRT higher than 90 of branch support and a pairwise genetic distance of ≤ 4.5. Logistic regression analyses were used to examine the relationship between the sociodemographic and clinical data associated with HIV-1 clustering.

Results: 66.8% of the migrants included in the study were males with a median age at diagnosis of 36.0 years old (IQR:29-45). Most migrants were from African countries (50.6%) followed by Brazil (39.6%). Sixty-eight (33%) of the migrants were included in clusters. Being in cluster was significantly associated with region of origin, with individuals from South America more likely to be in cluster (OR = 14.85, 95%CI:1.52-144.79), compared to individuals from Africa; with transmission route, with men who have sex with men (MSM) more likely to be in cluster (OR = 23.52, 95%CI:2.35-235.10), compared to the heterosexuals and with subtype, with subtypes B less likely to be in cluster (OR = 0,017, 95%CI:0,001-0,254) compared with subtype non-B.

Conclusions: Migrants HIV transmission clusters in Portugal are associated with specific health determinants, such as region of origin, transmission route and subtype. Targeted prevention health strategies are needed to mitigate transmission of HIV within this population. Funded by FCT to GHTM - UID/04413/2020 and LA-REAL - LA/P/0117/2020; BESTHOPE (HIVERA:249697); and MARVEL (PTDC/SAU-PUB/4018/2021).

Key messages:

- HIV transmission clusters in migrant are associated with their region of origin, transmission route and subtype.
- Targeted prevention health strategies are needed for the migrant population.

Abstract citation ID: ckae144.2070
Roma mothers of infant children in the health system - a qualitative study

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Background: The Roma in Bulgaria constitute the third largest group - 4% of the population. Data on demographic processes by ethnicity are scarce. A national survey in 2003 found significant differences in infant mortality - 9.9‰ for Bulgarian, 18‰ for Turkish, and 28‰ for Roma infants. Poverty among Roma children, risk of poor education, especially for girls, barriers to accessing health services remain high. We aim to reveal the cultural specificity in prenatal behavior and infant care among Roma mothers in the context of the role of the Bulgarian health service.

Methods: In-depth interviews with Roma mothers of infants up to 1 year were utilized for data collection. To ensure heterogeneity among the interviewees, several "nests" with varying socio-cultural status in the Varna district were identified in advance for participants recruitment. A list of interview themes concerning respondents' relationships with the public health system with an emphasis on the experiences of mothers was drawn up.

Results: Ten interviews with mothers having between 1 and 7 children were conducted in 2023. The mothers recounted discriminatory experiences during their interactions with certain health facilities (maternity wards), which act as barriers to accessing and utilizing health services. Maternity and infant counselling services are highly esteemed with favorable influence on child health outcomes. There has been a positive shift away from early marriage and childbirth towards prioritizing education for Roma girls. Mothers prioritize their children, and there is no neglect in their care. Family relations and support are being upgraded, with Roma fathers becoming involved in child care. Respondents express their educational needs and hopes for community-based support to better cope with their roles as mothers.

Conclusions: Ethno-cultural factors shaping the mother's role maintain traditional family support, while also reflecting significant modernization that needs societal support.

Key messages:

- A glimpse into people's experiences of the healthcare system - a clue to its effectiveness.
- The ethno-cultural factors in Roma are subject to modernization.

Abstract citation ID: ckae144.2071
Awareness and knowledge about Female Genital Schistosomiasis among European healthcare workers

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Background: Female Genital Schistosomiasis (FGS) is a gynaecological manifestation of persistent infection with Schistosoma haematobium, which can lead to severe consequences, such as miscarriage and infertility. It is estimated to affect 56 million women globally, mostly in sub-Saharan Africa (SSA). Most migrants in Europe are female, often from SSA and therefore at risk of FGS, hence healthcare workers (HCWs) knowledge of FGS is essential for the provision of adequate care. This study aims to assess awareness and knowledge of FGS among European HCWs to inform strategies to improve the management of migrant health.

Methods: In June 2023 - January 2024 we conducted a cross-sectional online survey targeting medical doctors (MDs), nurses and midwives (NMs) working in fields of infectiology, gynaecology, urology, family, travel, internal or occupational medicine. The prevalence of FGS awareness and knowledge was estimated, Poisson regression was used to identify factors associated with MDs' awareness of FGS.

Results: Among 922 surveyed HCWs, 43.7% (CI95%: 39.6-47.9) of MDs and 12.0% (CI95%: 8.8-16.0) NMs have heard about FGS. FGS awareness among MDs was associated with work in clinics for migrants (prevalence ratio (PR)=1.33, CI95%: 1.10-1.59) and specialization, being lower for gynaecology (PR = 0.67; CI95%:0.51-0.88), and family medicine (PR = 0.42, CI95%:0.30-0.59). Among MDs, 7.1% (CI95%: 5.1- 9.5) had medium knowledge, while 25.3% (CI95%: 21.8-29.0) had low, and 67.6% (CI95%: 63.7-71.4) no knowledge on symptoms, complications or diagnostic tools for FGS. FGS knowledge was mostly acquired through academic curricula (34.7%), scientific literature (28.4%) and conferences (25.6%).

Conclusions: The study shows limited awareness of FGS among European MDs and NMs, and highlights that European HCWs may not be adequately prepared to deal with diseases that are gaining relevance on the European continent due to the global connectivity and the dynamic nature of our societies.

Key messages:

- In Europe, the health specialities that are the first point of patient access to the health system show a low level of awareness and knowledge of Female Genital Schistosomiasis.
- Rising knowledge of FGS among European HCWs through academic curricula and continuous medical education is important to ensure adequate diagnosis and management of disease in migrant populations.

Abstract citation ID: ckae144.2072
Gastrointestinal infections and ethnicity in the UK: a systematic review and narrative synthesis

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Background: Gastrointestinal (GI) infections exert a significant public health burden on healthcare services in the United Kingdom (UK). The literature suggests an association between ethnicity and health; however, we do not know the extent of inequalities in GI infection/disease in the UK. This systematic review aimed to identify studies that ascertain differences in the incidence or prevalence of GI infections between UK ethnic groups and explore possible explanations for heterogeneity observed within the literature.

Methods: MEDLINE, CINAHL Plus, Web of Science (Science Social Science Citation Index), and grey literature were searched from 1980 to 21st June 2023 for studies reporting an association between ethnicity and GI infections in UK population samples. Two reviewers independently screened the studies and conducted quality appraisals; data extraction was undertaken by one reviewer and verified by another reviewer. A narrative synthesis was undertaken and a harvest plot supported the textual synthesis to investigate potential sources of heterogeneity in effect estimates by GI pathogen and ethnic group.

Results: The searches identified 10028 studies, of which 16 met the inclusion criteria. 15 out of 47 effect estimates from a total of 16 studies found that GI infection risk was greater in Black and Ethnic Minority Groups, mainly of Asian ethnicity, compared to the majority White population. 13 studies reported a higher risk in ethnic minorities of Asian ethnicity, while one study described a higher risk in the Non-White ethnic group. One single study on STEC reported a higher risk of GI infection in the White population compared to the Non-White population, while another single study on norovirus found no significant difference by ethnic group.

Conclusions: This systematic review demonstrates that ethnic minority groups in the UK have a higher risk of GI infections than the general or White population.

Key messages:

- There is a clear need to elucidate further the high incidence of GI infections in UK Indian, Pakistani, and Bangladeshi communities.
- Tackling ethnic inequalities requires a concerted approach and translating evidence into policy.

Abstract citation ID: ckae144.2073
Health disparities among in multicultural and non-multicultural families in South Korea

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South Korea has experienced significant immigrant growth, with international marriages playing a key role in this demographic change. In 2019, international marriages accounted for 10.3% of all marriages, increasing the number of multicultural households. Multicultural families in Korea faced controversies over accepting new members in a society traditionally considered racially and ethnically homogenous. In rural areas, where patriarchal and conservative values prevail, there is greater discrimination and negative perception towards foreigners compared to urban areas, impacting access to healthcare. This potentially adversely affects the health of married immigrants. However, research on this issue is limited. This study aims to examine the differences in health behaviors, access to care, and health status between multicultural and non-multicultural families in rural and urban areas. Using a cross-sectional study design based on the 2023 Community Health Survey, the sample included 228,216 adults from non-multicultural families and 3,373 adults from multicultural families. Adjusted differences in outcome were estimated using regression models, including linear probability and logistic models. Overall, there were minimal or no differences in health behaviors and health status between adults from multicultural and non-multicultural families. However, significant differences were observed in access to care, such as annual health check-ups (0.72 [0.64, 0.81]) and vaccinations (0.84 [0.76, 0.94]). Non-multicultural families showed regional differences in all outcomes, whereas multicultural families exhibited minimal or no regional differences. These findings suggest that multicultural families may face barriers beyond regional environments, limiting their access to care and potentially leading to long-term negative health outcomes. Targeted policy development for multicultural families in Korea is necessary to address this issue.

Key messages:

- Access to health care may vary for individual and local factors, especially for people with different ethnicities or cultures.
- Multicultural families may encounter greater barriers than individual and regional characteristics, requiring the development of tailored policies for immigrants and multicultural families.

Abstract citation ID: ckae144.2074
Determinants of health and pregnancy and birth outcomes: an overview

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Introduction: This study examines the influence of health determinants on pregnancy and birth outcomes. The aim is to provide a clear and updated view of the overall framework characterizing the birth experience, with crucial implications for clinical practice, research, and health policy.

Methods: Data analysis pertains to the Certificate of Assistance for Birth (CAP) concerning residents in the territory of AUSL South-East Tuscany in the years 2021 and 2022. The number of women of childbearing age in Tuscany in 2022 is 150,959, while the number of births analyzed in the study is 9,053. The study conducts multivariate analysis between factors and pregnancy-related outcomes.

Results: Controlling for age, citizenship and others factors, the risk of cesarean section is significantly higher ($p < 0.05$) among mothers: over 40 years old (OR = 2.09), with education levels of lower secondary (OR = 1.21) and upper secondary (OR = 1.23) compared to a degree, not employed (OR = 1.25) and homemakers (OR = 1.45) compared to employed, overweight/obese (OR = 1.41), with gestational diabetes (OR = 1.16), smoking during pregnancy (OR = 1.27), with gestational hypertension (OR = 2.81). Controlling for age, citizenship and others factors, the risk of term low birth weight is significantly higher ($p < 0.05$) among mothers: over 40 years old (OR = 1.76), not employed (OR = 1.76) and homemakers (OR = 1.34) compared to employed, smoking more than 3 cigarettes daily during pregnancy (OR = 1.31) not significant, with gestational hypertension (OR = 5.57), nulliparous (OR = 1.42). Controlling for age, citizenship and other factors, the risk of premature birth is significantly higher ($p < 0.05$) among mothers: with gestational hypertension (OR = 5.22), nulliparous (OR = 1.89), smoking during pregnancy (OR = 1.59).

Conclusions: The results underscore the importance of carefully monitoring and managing these risk factors during pregnancy to improve outcomes for both mother and baby.

Key messages:

- Understanding the determinants that influence birth outcomes plays a fundamental role.
- The importance of Early Childhood Development and early interventions can improve children's health and well-being.

Abstract citation ID: ckae144.2075
Mortality in migrants with dementia living in the Lazio region, Italy

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Background: Dementia is a major cause of disability and death among older people. Older migrants living in Italy are increasing and the prevalence of dementia is expected to rise in this population. Nevertheless, there is lack of real-world information concerning their health outcomes. The aim of this work was to analyse mortality in migrants with dementia living in Lazio, Italy (IMMIDEM project, GR-2021-12372081)

Methods: In a retrospective cohort study, people with dementia aged ≥50 living in Lazio on 31st December 2018 were selected using Health Information Systems (HIS) and followed-up for 5 years. The migrant status was defined according to the Country of birth as native Italians, people from High Migratory Pressure Countries (HMPC) or Highly Developed Countries (HDC). Age-standardized mortality rate (SMR) was estimated overall and by migrant status. Time to event analysis was performed using Kaplan-Meier curves, log-rank tests, and multivariate Cox regression.

Results: On 31st December 2018, 38,835 individuals with dementia were living in Lazio, 2.1% from HMPC and 0.9% from HDC. Natives and HDC were older than HPMC, while migrants showed a higher proportion of female. The SMR was lower in migrants from HPMC (42.2%; CI95% 37.0%-48.1%) and from HDC (33.2%; CI95% 25.4%-43.4%) than among natives (52.4%; CI95% 50.7%-54.1%). The age-adjusted mortality hazard ratio (HR) was lower in migrants (HDCs HR = 0.76, CI95%:0.66-0.89; HMPC HR = 0.88, CI95%:0.80-0.97) than natives.

Conclusions: The study showed a lower mortality rate among migrants with dementia compared to native Italians. Under-diagnosis, the "salmon bias", and the "'healthy migrant effect" could explain this apparent paradox, consistently with available literature. In addition, following-up migrants in the HIS may be difficult and underestimation may occur. Enhancing the comprehension of this phenomenon could allow the formulation of more effective, diversity-sensitive policies and practices for the management of dementia.

Key messages:

- The mortality rate among migrants with dementia was found lower than that among native Italians.
- Understanding the morbidity and mortality patterns in migrants with dementia is important to develop practice to adequately respond to their health needs and diversity-sensitive polices.

Abstract citation ID: ckae144.2076

Validity of the Multigroup Ethnic Identity Measure for Māori, Pacific, Asian & European adolescents

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Background: Ethnic identity is important for positive health and wellbeing outcomes, especially for Indigenous youth and adolescents from minoritised ethnic groups. The Multigroup Ethnic Identity Measure (MEIM) is widely used to examine ethnic identity as a general phenomenon across ethnic groups. However, evidence regarding its validity for adolescents from different ethnic backgrounds is mainly limited to the US context. This study investigated psychometric properties of the MEIM, for the first time, within a large ethnically diverse population-based sample in New Zealand.

Methods: We used data from the Growing Up in New Zealand study. Participants were 4500 12-year-olds and included 22.4% Māori (the Indigenous people of New Zealand), 16.7% Pacific, 14.8% Asian and 51.9% European young people. 45.7% were cisgender boy, 37.4% were cisgender girl, and 16.4% were non-binary, trans or unsure. We conducted factor analysis for the 12-item MEIM.

Results: Confirmatory factor analysis model fit tended to be best for a solution with two factors representing two ethnic identity subcomponents of Exploration and Affirmation/Belonging. A single 'ethnic identity' factor showed a slightly weaker model fit. Exploratory factor analysis revealed a 2-factor structure with a slightly different item composition as compared to the original MEIM subscales. The findings were largely comparable across ethnic groups.

Conclusions: The MEIM appears to be a valid measure for Māori, Pacific, Asian and European young people. However, nuances may exist due to unique contexts including structural factors, societal norms and challenges, opportunities and access to cultural engagement. Ethnic identity is strongly linked to health and wellbeing including quality of life, self-esteem and life satisfaction. Therefore, we recommend acknowledging nuances of ethnic identity during an important time of development within diverse cultural contexts, by applying subscales and subgroup analyses where possible.

Key messages:

- The Multigroup Ethnic Identity Measure is valid and appropriate to use at age 12-years among diverse ethnic groups including Māori, Pacific, Asian and European.
- Nuances of ethnic identity should be acknowledged as an important factor for health and wellbeing, especially during critical times of transition for adolescents within diverse cultural contexts.

Abstract citation ID: ckae144.2077

Promoting vaccination for newly arrived migrants: a multistakeholder collaboration pilot

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Access to vaccinations for Newly Arrived Migrants (NAMs) is a critical public health issue. In the context of the project 'Increased Access for Newly Arrived Migrants-AcToVax4NAM' (Grant No. 101018349, 3rd EU Health Program), DPHID-SAP and GLOB-ISS conducted a pilot aimed at developing and testing a system pathway to promote and vaccinate NAMs. The pilot began with the creation of a team between researchers from DPHID-SAP and GLOB-ISS, professionals from two services of the Local Health Authority and from a first reception centre (CAS) in Rome area. An integrated knowledge translation approach was used, which facilitated the collaborative development of strategies and actions of the pilot. The team then reached out to other 'professionals FOR health' involved in the vaccination process of NAMs, i.e. physicians from Temporarily Present Foreigners (STP) outpatient clinics, General Practitioners and Pediatricians. Between July 2023 and April 2024, four actions were developed. 1) analysis of the current access of NAMs to vaccination services and the subsequent development of a contextualized pathway to facilitate vaccinations for NAMs, including catch-up strategies; 2) identification of informed consent and other materials needed to be included in the pathway; subsequently, translated in 10 languages; 3) implementation of vaccine literacy session for CAS staff and NAMs; 4) improvement of immunization information flows to enable assessment of vaccination coverage of NAMs. To evaluate the pilot, the vaccination rate observed during the pilot (January-April 2024) was compared to that occurring in 2023, showing a 36.5-fold increase in the vaccination rate (4 x 100 person-year in 2023 and 155 x 100 p/y in 2024; RR = 36.5 (95%CI 14.6-117.6). The pilot highlighted that a research collaborative approach among various actors facilitated the access to vaccination for NAMs and was an opportunity to turn knowledge into action.

Key messages:

- It is essential to ensure equitable vaccination coverage to reduce under-immunized groups.
- Access to vaccination is a key element of the right to health and for collective health protection and it should be a shared responsibility.

Abstract citation ID: ckae144.2078

Child COVID-19 rates and migrant status: A quantitative study in the Lisbon area (Mar 2020-Jun 2022)

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Introduction: According to OECD data, immigrant children were over-represented among COVID-19 cases compared to non-immigrant children. However, evidence is missing on whether their migrant status is associated with testing positive for COVID-19. Therefore, we aimed to estimate COVID-19 positivity rates among children residing in five municipalities of the Lisbon metropolitan area, Portugal, and to analyze migrant status as a determinant of health.

Methods: We conducted a prospective cross-sequential cohort study with 989 children born in 2015, 2018, and 2020 (48.5% non-immigrants; 51.5% immigrants). Sociodemographic data were collected through interview-based questionnaires, and the child's birth weight and gestational age were obtained from the primary health center's information system (SClinico). COVID-19 test results (conducted between March 2020 and June 2022) were obtained from the national surveillance system (SINAVE Lab) and categorized into two primary outcomes: ever positive for COVID-19 (yes/no) and positivity frequency for COVID-19 (count). Robust and standard Poisson regressions were used to estimate the association between primary outcomes and demographic, socioeconomic, and clinical variables. We estimate relative risks (RR) and prevalence ratios (PR) with 95% confidence intervals.

Results: The positivity rate is lower for immigrant children (12% vs 17%). Compared with non-immigrant, and adjusting for other factors, immigrant children are 52% less likely to be ever positive for COVID-19 ($PR = 0.482$; IC 95%: 0.392-0.594), and the estimated number of positive tests is 54% lower ($RR = 0.456$; IC 95%: 0.362-0.574).

Conclusions: Being an immigrant is a protective factor against testing positive for COVID-19, aligning with the well-known immigrant paradox. These results underscore the need for further research into the immunological profiles of this population and are crucial for guiding strategies to manage emerging public health crises.

Key messages:

- Immigrant children living in the Lisbon metropolitan area may have a protective factor against testing positive for COVID-19, consistent with the well-known immigrant paradox.
- Understanding COVID-19 positivity rates and associated factors in children is crucial for guiding effective strategies to manage and mitigate emerging public health crises.

Abstract citation ID: ckae144.2079
Breastfeeding duration, children's diet and physical activity in immigrant children living in Lisbon

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Background: In 2023, 25% of children born in the Lisbon metropolitan area were from foreign mothers. Children of immigrant parents often face an unbalanced diet and unhealthy lifestyle, preventing them from reaching their full potential. The aim of this study was to analyse the associations between migrant status and breastfeeding duration, fruit and vegetable consumption and physical activity in children living in the Lisbon metropolitan area, Portugal.

Methods: Cross-sequential cohort study in Lisbon Region. Between May 2022 and April 2024, 729 children (49.4% immigrants) born in 2018 and 2020 were enrolled in the study. Data were collected in a face-to-face interview with the parents using a structured questionnaire with information on children's diet (fruit and vegetable consumption) and physical activity. We used X2, Mann-Whitney U and t-tests to compare immigrant and non-immigrant children. Adjusted odds ratios (aOR) with a 5% level were estimated by logistic regression.

Results: Immigrant children (49.4%) live in socio-economically disadvantaged families. Breastfeeding practices are more common among migrant mothers with a higher median duration of exclusive breastfeeding (6 versus 4 months, $p < 0.001$) and a higher median duration of breastfeeding (14 versus 8 months, $p < 0.001$). Parental migration background is associated with the frequency of fruit ($p = 0.039$) and vegetable ($p < 0.01$) consumption and with the practice of physical activity ($p < 0.01$). The odds of consuming three or more portions of fruit are 1.37 times higher for non-immigrant children, and the odds of consuming two portions of vegetables are higher for non-immigrants than immigrants ($aOR=2.04$, $p < 0.01$). Practicing sports is most frequent in non-immigrants ($aOR =2.25$; $p < 0.01$).

Conclusions: Migrant status was associated with a less healthy lifestyle in childhood for children living in the Lisbon metropolitan area.

Key messages:

- Breastfeeding is an essential source of nutrition for children, especially in socio-economically disadvantaged families.
- The migrant status is often associated with inequalities in childhood, challenging immigrant children to achieve their full potential.

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Meaning-making of mental health among reception center clients in Finland

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Introduction: Asylum seekers and refugees face significant challenges, including high rates of mental health issues, as they navigate unfamiliar societal systems and norms. However, little is known about their subjective experiences of mental health and the mental health support in everyday social encounters. This study aims to explore the meaning-making of mental health and the experiences of receiving mental health support among clients of Finnish reception centers (FRCs).

Methods: Semi-structured individual in-person interviews were conducted with 11 reception center clients from various locations in Finland, with an interpreter present in four interviews. Interviews lasted approximately 60-90 minutes. Thematic analysis was employed to identify recurring themes and subthemes.

Results: Preliminary findings indicate a diversity in the meaning-making of mental health among participants. While some discussed mental health in terms of stress, others approached the topic analytically, while some avoided it altogether. Participants highlighted the importance of access to external resources, such as schools, language courses, and employment, for enhancing overall well-being. Trust in FRC staff emerged as a crucial factor in seeking and receiving assistance for mental health concerns. Additionally, participants exhibited resilience, suggesting benefits of empowering them during this challenging period.

Conclusions: Adopting a holistic approach to mental health care within FRCs is imperative. Understanding how clients construct meaning around mental health is particularly relevant for training FRC staff, who serve as primary points of contact for asylum seekers and refugees in Finland. Moreover, amplifying the voices of reception center clients can contribute to improving services and enhancing the health and well-being of this population in Finland.

Key messages:

- It is necessary to adopt a holistic approach to mental health care within reception centers, one that addresses broader social determinants of mental health.
- Trust in the staff of Finnish reception centers is a critical factor in facilitating the seeking and receiving of assistance for mental health concerns among asylum seekers and refugees.

Abstract citation ID: ckae144.2081
Long COVID Prevalence and Factors Among ethnically Diverse UK Healthcare Workers

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Background: Long COVID (LC), characterised by persistent symptoms post-acute COVID-19 infection, presents a growing public health concern. Data on prevalence among healthcare workers (HCWs) are lacking. Our study aimed to establish the proportion of UK HCWs with symptoms lasting beyond five weeks and identify factors associated with LC in a diverse cohort.

Methods: We conducted a cross-sectional analysis from December 2020 to March 2021. The main outcome was LC in relation to self-reported ethnicity. Univariable and multivariable logistic regression identified associations. Odds ratios (ORs) and adjusted odds ratios (aORs) were calculated with 95% confidence intervals (95%CIs). The multivariate analysis adjusted for demographic information, job role, household factors, health status, and existing long-term conditions. Missing data were imputed via chained equations.

Results: From 11,513 HCWs, 2,331 (20.2%) reported COVID-19, with 525 (22.5%) experiencing LC. 80.0% of those reporting LC were female, compared to 74.3% without LC were female. Participants with LC (median age 46 [IQR 36-54)]) were slightly older than those without LC (median age 41 [IQR 31-52]). In multivariable analyses of those who reported having had COVID-19, HCWs in nursing/midwifery roles (aOR 1.76, 95% CI 1.26-2.46, $p = 0.001$) and allied health professions (aOR 1.42, 95% CI 1.05-1.93, $p = 0.023$) had higher odds of reporting LC compared to those in medical roles. Significant associations were also found with self-reported depression, anxiety, and asthma. There was no significant association between ethnicity and experiencing LC.

Conclusions: In this large ethnically diverse cohort study, there is a substantial burden of LC among UK HCWs. Further research and collaborative efforts are urgently needed to address these factors effectively, develop targeted public health interventions, and understand the temporal and longitudinal dynamics of the condition.

Key messages:

- One in five UK healthcare workers reported long COVID, indicating critical needs for targeted public health interventions.
- Our study highlights urgent public health responses to address long COVID among healthcare professionals.

Abstract citation ID: ckae144.2082
Ethnic disparities in clinical severity of COVID-19 as predictor of long COVID

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Background: Recent studies from Europe have shown a higher incidence of long COVID among ethnic minorities compared to the majority population. Little is known of these disparities, but they might be related to factors such as COVID-19 disease severity, barriers in access to health and individual factors such as working and living conditions. This study will elucidate possible predictors of long COVID related to COVID-19 disease severity in an ethnic diverse hospitalised cohort.

Methods: A retrospective cohort study of 1648 patients admitted with COVID-19 at three hospitals in Copenhagen, Denmark, between 1st February 2020 and 31st May 2022. Clinical data was extracted from health care records, and subsequently linked to data from Statistics Denmark on long COVID diagnosis (ICD-10 "DB948A") as well as migration status.

Results: 1361 patients were discharged alive and of those, 113 (8,3%) patients got a long COVID diagnosis. Preliminary analyses show no excess risk of getting a long COVID diagnosis as a migrant compared to patients of Danish origin ($RR = 1{,}20$, $p = 0{,}35$). Some ethnic disparities are seen in disease severity among all patients discharged alive. Patients with migrant background were admitted to the hospital later (6,8 vs 5,6 days, $p < 0{,}0001$), and at a greater risk of needing high flow oxygen administration upon admission ($RR = 1{,}46$, $p = 0{,}0012$) compared to patients of Danish origin. Furthermore, a higher degree of systemic inflammation is seen among migrants with regards to lactate dehydrogenase (LDH) compared to patients of Danish origin (349,7 vs 317,2 U/L, $p = 0{,}0014$). No significant differences in c-reactive protein (CRP) levels (92,8 vs 85,9 mg/L, $p = 0{,}11$).

Conclusions: Preliminary analyses indicates possible ethnic disparities in COVID-19 disease severity among patients discharged alive possibly playing a role as predictors of long COVID. Low health literacy or language barriers might partly explain this. Further analyses are needed.

Key messages:

- In preliminary analyses of 1381 patients previously admitted with COVID-19, we find no excess risk of a long COVID diagnosis (DB 948B) among patients with migrant background.
- Preliminary analyses show some ethnic disparities in COVID-19 disease severity that might act as possible predictors of long COVID.

Abstract citation ID: ckae144.2083
Gestational diabetes and pregnancy outcome in Kurdish, Somali and general population in Finland

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Gestational diabetes (GDM) increases the risk of type II diabetes and cardiovascular morbidity later in life but GDM incidence in women from different cultural backgrounds varies. This study aims to examine treatment of GDM and pregnancy outcomes in Somali, Kurdish and general population women. Patient data of 312 Kurdish, 254 Somali and 508 general population women was collected from Turku University Hospital records from 2008 to 2019. The general population was selected by randomization with matching year, BMI, age, and parity. Singleton deliveries after 34th gestational week with no prior diabetes mellitus were included. Descriptive and comparison analyses (SPSS, version 29.0) were used to identify associations between ethnic background and pregnancy outcomes in women with GDM. The incidence of GDM was 22 % (CI 95 % 17-27) in

Somali, 36 % (CI 95 % 31-42) in Kurdish, and 16 % (CI 95 % 13-19) in the general population women. Kurdish women had medication for GDM more often (43 % CI 95 % 34-53) than the Somali (22 % CI 95 % 11-33) and general population women (18 % CI 95 % 9-26). Metformin was more commonly used among Kurdish (30 % CI 95 % 22-39) compared to the general population (12 % CI 95 % 4-18) and Somali women (13 % CI 95 % 4-22). There was no difference in insulin or combined metformin and insulin treatment between the groups. In GDM group, vaginal deliveries were more common in general population (89 % CI % 81-95) than in Somali women (67 % CI % 64-81). Induction of labour (indication GDM or other) and instrumental vaginal delivery rates were similar between the groups. Newborns of all Somali women had a lower weight (SD -0.3 CI 95 % -0.7 - -0.2) compared to the general population (SD 0 CI 95 % -0.1 - 0.3). The prevalence of GDM was increased and dietary treatment decreased in Kurdish women compared to the general population in Finland. In the future, the treatment of GDM should be adjusted to better optimize the care for different cultural background women.

Key messages:

- Kurdish women have increased incidence of GDM and less dietary treatment compared to the general population with similar risk factors. The pregnancy outcomes remain good in all groups.
- With Somali women, the birth weight of the child is lower despite GDM status. This might direct clinicians to underestimate the effect of GDM when considering individual treatment.

Abstract citation ID: ckae144.2084
Reflecting (on) power?Critical reflections by healthworkers in Germany on racial power and privilege

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Background: Healthcare users have increasingly reported on experiences of racial discrimination in healthcare encounters in Germany (Aikins et al. 2020). While research on the experiences of racialised users predominates, examining the perspectives of white professionals, especially those holding positions of authority, regarding their internalised stereotypes and discriminatory practices is also crucial. This study therefore investigated the prevalence of conscious or unconscious biases related to critical whiteness and anti-racism among healthcare workers (doctors, nurses and therapists) and how these attitudes shaped their professional practice.

Methods: Problem-centred expert interviews (Döringer 2021) with 20 healthcare professionals from medicine, nursing, and therapeutic professions working in hospitals or rehabilitation facilities across three German federal states. Data were analysed using documentary method (Bohnsack 2002).

Results: Respondents exhibited varying degrees of reflective abilities, and there are limited opportunities for structured self-reflection focused on recognizing and addressing racism. The research interview constituted a much-needed space for such reflection. Those who are sensitised about their own positions of privilege often are so due to external influences and personal trajectories (teenaged children, trade union activism) rather than through the values or structures of their institutions. Unconscious racism nonetheless still manifests, demonstrating the need to create more inclusive environments where critical self-reflection on racism is encouraged.

Conclusions: To effectively combat racism, German healthcare institutions must systematically implement anti-racist and intersectional interventions. This also entails creating spaces for reflection where staff can openly examine and acknowledge their own biases, fostering an environment conducive to collective action for promoting anti-racist workplace practices.

Key messages:

- Opportunities for self-reflection critical of racism should also be offered across institutions in order to ensure trusting, non-hierarchical spaces.
- Reflections on one's own social positioning and privileges are not common in all circles, so the necessity of this attitude should be communicated in an error-friendly manner.

Abstract citation ID: ckae144.2085
A framework to guide the commissioning of healthcare services for people seeking asylum in England

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The increasing number of people seeking asylum (PSA) in England, compounded by delays in processing their cases, has led to an urgent need for tailored practices to overcome barriers to healthcare access. While local examples of excellence in healthcare provision for PSA exist, a national framework to guide healthcare for these groups is lacking, leading to fragmentation and inconsistency in service provision. This collaborative research project with the British Red Cross took a co-production approach, involving three peer researchers with lived experience from the outset. From a literature review of case studies on improving access to healthcare for PSA, a preliminary framework of good practice was developed and explored with participants with lived experience of seeking asylum during three in-person workshops refined this. Finally, two focus groups with policymakers and healthcare professionals (HCPs) explored challenges in commissioning services, ensuring final framework relevance to the policy context. In total, 60 participants with lived experience attended three workshops and 19 policymakers and HCPs attended focus groups. Workshop participants emphasised the critical role of improving communication in healthcare settings and educating HCPs and PSA on entitlements and the NHS system. Policymakers highlighted the importance of robust leadership and a standardised national approach that can be adapted locally. Capacity constraints within the NHS and primary care system were highlighted as barriers to good quality care provision. Findings were collated into a practical framework, describing five pillars of good practice; 1)Working in partnership; 2) Upskilling the healthcare workforce; 3) Including lived experience voices; 4) Improving data on local needs; and 5) Strengthening pathways into healthcare. The framework provides guidance to enhance the accessibility, consistency and quality of healthcare services for PSA, addressing critical gaps in the current system.

Key messages:

- A novel framework to guide commissioning and provision of healthcare for people seeking asylum has been developed, drawing from existing pockets of excellence to aid a consistent national approach.
- The framework presents five pillars of systemic good practice, highlighting the importance of strategic partnerships, workforce training and data collection in providing good quality care.

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"We must make sacrifices" - coping among left-behind adolescents in Georgia after parental migration

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Background: Adolescence is challenging, particularly for those left-behind in their countries of origin while parents out-migrate for work. The Eastern European country Georgia has one of the highest percentages of left-behind children and adolescents worldwide, yet how they cope with migratory separation remains unknown. This study is the first to explore strategies of Georgian left-behind adolescents to cope with parental absence.

Methods: From December 2021 to January 2022, we conducted 29 narrative interviews with left-behind adolescents aged 12-18 in Georgia. We purposively sampled participants from a relatively large public school in the Samegrelo region, the second-largest region of Georgia. Interviews were audio-recorded, transcribed, and coded using NVivo 12. Resilience theory underpins this study, and reflexive thematic analysis is applied to identify main themes and sub-themes.

Results: Under the overarching theme of coping and resilience, we identified the following four main themes: (1) the time dimension (2) family connectedness (3) positive attitudes and self-care (4) social interactions beyond the family. Our findings revealed that adolescents whose parent(s) migrated when they were toddlers coped well, while children aged 6-10 felt heavily affected and vulnerable. Closeness with the migrant parent, siblings, caregivers, and other family members was crucial for children's coping. Self-care, self-encouragement, and positive attitudes helped them overcome negative emotions related to parental absence. Awareness of parents' motivation to migrate and appreciation of material benefits positively contributed to adolescents' coping and resilience. In addition, those with many friends coped better and were more resilient than socially less active peers.

Conclusions: Self-motivation, positive attitude, supportive family, and social interactions help left-behind adolescents to cope with negative emotions related to parental absence.

Key messages:

- left-behind children especially at the age of 6-10 need support to cope with migratory separation.
- Interventions are needed to strengthen family ties and support children in intensifying social interactions beyond family.

Abstract citation ID: ckae144.2087
Digital Literacy Among Migrants in Portugal: Access, Usage, and Trust in Health Information

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Background: Digital literacy is crucial for effective utilization of health-related services and information. This study evaluates digital literacy among migrants in Portugal, focusing on three key components: access to digital services, usage of these services for health information, and trust in online health resources.

Methods: A cross-sectional survey was conducted to assess migrants' access to digital devices such as smartphones and computers, their ability to use these devices for health-related purposes, and their perceptions of the credibility of online health information. Data were analyzed across various sociodemographic and migration-related factors.

Results: 1,048 migrants were included, of which 90.3% had access to digital services, and 64.9% reported ease in using these services to obtain health information. Despite widespread access and usability, about 45.6% of migrants doubted the reliability of online health information. Access and usage varied significantly with age, education, income, employment status, and region of origin. Older, less educated, lower-income, and African migrants faced more significant challenges in access and usage. Additionally, trust issues were predominantly reported by females, those with lower education levels, recent arrivals, and non-Portuguese speakers.

Conclusions: The study highlights significant disparities in digital literacy among migrants, influenced by socio-economic and demographic factors. While access to digital tools is high, challenges in usage and trust present barriers to effective health communication.

Key messages:

- High access to digital services among migrants, yet significant disparities affect older, less educated, and lower-income groups.
- Usage difficulties combined with low trust in online health info highlight the need for targeted digital literacy interventions.

DT. Poster display: Public health economics

Abstract citation ID: ckae144.2088
Are post-communist countries paying increased healthcare costs because of risky behaviour?

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Background: Based on the annual Country Health Profiles, we can see the difference in population behaviour across EU countries and the associated health risks. At first glance, the so-called post-communist countries are characterised by above-average per-capita harmful consumption of sin goods, alcohol and tobacco. Is this harmful consumption associated with increased healthcare costs?

Methods: The idea of the study is based on balanced panel-data published in Country Health Profiles. The member countries were divided into groups based on their health risk scores - high risk (above average), and low risk (below average). The group of countries with high risk is mostly composed of post-communist countries. The detailed per-capita annual data for the period 2013-2021 was collected, such as GDP, consumption of sin goods, alcohol, and tobacco. The analysis is based on fixed-effects linear regression models, following recent recommendations on suppressing the excessive role of statistical-inference tools.

Results: We built various models for different groups of countries, and in this abstract, we present results for the group of post-communist countries - a simple model of harmful consumption (sin goods, GDP) and a more complex model (alcohol, tobacco, GDP). The results show that in the case of the post-communist countries group, for a fixed level of GDP per capita, higher consumption of sin goods by EUR 1 per capita corresponds with total healthcare expenditures higher by EUR 0.244 per capita. For a fixed level of GDP per capita and tobacco consumption per capita, higher consumption of alcohol by EUR 1 per capita corresponds with total healthcare expenditures higher by EUR 1.367 per capita.

Conclusions: Harmful consumption has a multiplier effect in the health sector; besides direct impact, it influences an increase in healthcare expenditures. More emphasis should be placed on prevention and awareness of consumers to reduce harmful consumption.

Key messages:

- For fixed GDP per capita, higher harmful consumption corresponds with higher healthcare costs in post-communist countries.
- For fixed GDP per capita and tobacco consumption per capita, a €1 higher alcohol consumption corresponds with more than €1 higher healthcare expenditure in the post-communist countries.

Abstract citation ID: ckae144.2089
Solutions for reducing the severe economic burden of musculoskeletal diseases

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Issue: In Slovenia the big group of over 150 musculoskeletal and connective tissue diseases (MSCTD) constitute a serious public health problem, a major burden on health systems and society as a whole. Patients with these diseases have a poorer quality of life and often retire early. Any early retirement that could have been prevented represents a loss of human capital, which is a major social and economic cost to society. The aim of this study was to analyze the economic burden of the six most common MSCTD in Slovenia for the period from 2020 to 2022, to contribute to a better understanding of this problem and suggest solutions.

Methods: At the Slovenian National Institute of Public Health, in collaboration with the Faculty of Economics at the University of Ljubljana, we calculated the burden of six most common MSCTD for the period 2020-2022. We used the National Transfer Accounts (NTA) methodology to calculate the indirect costs; direct costs were calculated based on the national routine health data.

Results: The calculated economic burden of the six most common diagnoses of MSCTD represents 5% of total health expenditure or 0.4% of Slovenian gross domestic product on average. Direct costs amounted to 2% of total health expenditure (hospitalizations 22.5%, costs for medicines 9.3%, first curative visits at the primary level and visits to the outpatient clinic at the secondary level 2.7%). Indirect costs amounted to 3% of total health expenditure.

Conclusions: Despite the reduced access to the health system due to COVID-19 the economic burden of MSCTD is high in Slovenia and would be significantly higher considering all diagnoses from this group of diseases. The research requires interdisciplinary cooperation between medicine and economics regarding demanding NTA methodology which is innovative in our country.

Key messages:

- One of the main public health priorities in Slovenia should be to raise awareness of MSCTD.
- In the light of the aging population prevention activities with focus on MSCTD should be intensified as soon as possible.

Abstract citation ID: ckae144.2090
Public health and broader economic benefit of treating autoimmune and respiratory diseases in Greece

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Background: The increasing prevalence and incidence of autoimmune and respiratory diseases is a leading public health concern. This study aims to quantify the public health and broader economic gains from treating autoimmune and respiratory diseases in Greece.

Methods: A decision-analytic model was constructed evaluating the socioeconomic and fiscal gains of established standard of care treatments against 4 autoimmune disorders namely, rheumatoid arthritis, psoriatic arthritis, psoriasis, ankylosing spondylitis and against the respiratory diseases of asthma, and COPD. Morbidity reductions from treatment were translated into averted loss of income and absenteeism and averted tax revenue loss and prevented disability pensions. Targeted literature reviews were conducted to obtain the effectiveness of treatments on productivity-related outcomes. Economic data were obtained from official sources.

Results: Treating 1,000 patients for the autoimmune and respiratory conditions is estimated to generate annual gains of 196.3 productive life years (PLYs), to avert 48,547 absenteeism days and to prevent 1.2 disabilities. The annual socioeconomic and fiscal gains of treatments against autoimmune disorders are estimated at €6.5 million and €1.3 million, respectively. Preventing asthma and COPD-related morbidity, among 1,000 patients, is estimated to yield annual socioeconomic gains of €1.2 million and fiscal gains of €0.4 million.

Conclusions: Effective treatment of autoimmune and respiratory diseases may generate substantial public health, socioeconomic and fiscal gains, simultaneously promoting population's health and the sustainability of the healthcare system.

Key messages:

- It is the first study carried out in Greece aimed to assess the positive impact on public health and the broader economic value of treating autoimmune and respiratory diseases.
- Therapeutic value of pharmacological interventions transcends the potential benefits to patients and public health.

Abstract citation ID: ckae144.2091
Health economics and services research in symbiosis: STREAMLINEing mental health services in Austria

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Objectives: The cost of mental diseases exceeds 4% of GDP in Europe. In Austria, every 5th person lives with mental ill-health (MIH). Ongoing epidemiological, demographic and societal changes increase the need for easily accessible, better integrated and good value services. In STREAMLINE, we combine, harmonize and implement the latest methods in human service mapping and economic costing to optimize future service provision and financing for MIH in Austria.

Methods: We comprehensively assess the availability, activity and affordability of human services targeting MIH in Vienna within the health and social care, education, labour and justice sectors based on a conceptual mind map. We identify services through extensive literature, document and web searches plus expert consultations. Services are mapped and costed according to the European PECUNIA methods: classification of the main service types using the international DESDE taxonomy of human services; development of Reference Unit Costs using the PECUNIA RUC templates with primary data; validation of the results with secondary data; compilation of a comprehensive multi-sectoral service catalogue; and synthesis for spatial and policy analyses.

Results: We identified 756 sources, 75% individual organisations, 5% multi-organisations and 20% existing provider lists. 84% relate to health and social care, 10% labour, and 3% education and justice sectors each. 58% deliver care to adults, 37% to children & adolescents, and 5% support carers. Further service mapping and RUCs will be presented.

Discussion: STREAMLINE pioneers in coordinated public mental health services and economics research at scale. Assessed levels of fragmentation call for better integration, improved transition, reduced spatial inequity and increased support for carers. Results increase the feasibility of service evaluations from a societal perspective. Planned public service atlas facilitates information and access for service users and carers. Funding: WWTF

Key messages:

- New methods for harmonized health services and economics research allow comprehensive information for optimized future mental health service planning and financing.
- Assessed levels of fragmentation highlight the need for better integration, improved transition, reduced spatial inequity and increased support for carers.

Abstract citation ID: ckae144.2092
The shift from inpatient to outpatient settings of a surgical DRG for pediatric patients in Portugal

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Background: The shift of selected surgical procedures from inpatient to outpatient settings has been seen as a solution to improve health care provision. These shifts often occur under pay-for-performance schemes, pay-for-efficiency schemes, or other forms of financial incentives. For this study, we aimed to assess the effect of Decree 132/2009, implemented on February 1, 2009, which increased the relative weights of DRG 60 ("tonsillectomy and/or adenoidectomy, age <18") performed in outpatient settings, thus acting as a financial incentive.

Methods: We performed a quasi-experimental study and employed interrupted time series (ITS) and controlled interrupted time series (CITS) designs, using monthly pediatric data provided by The Central Administration of the Health System (ACSS), with discharges between January 2006 and February 2012 (having 37 months pre- and post-decree implementation) of inpatient and outpatient episodes for DRG 60 (affected group) and DRG 163 ("hernia procedures age <18", the selected control group). We used as study outcomes proportions (number of outpatient episodes divided by the sum of outpatient and inpatient episodes) to quantify increases in outpatient episodes and ratios (number of outpatient episodes divided by the number of inpatient episodes) to quantify decreases in inpatient episodes. Fourier terms were included to adjust for seasonality.

Results: We obtained statistically significant results only at the trend level for ratios when using the ITS model (0.01574) and for proportions only when using the CITS model (0.00310), although small non-statistically significant increases were obtained for the employed ITS as well as for the CITS design.

Conclusions: Decree 132/2009, which created financial incentives for the shift from inpatient to outpatient for DRG 60, showed low and non-statistically significant increases using both ITS and CITS models.

Key messages:

- We analyzed the impact of Decree 132/2009 on the pediatric surgeries under DRG 60 performed in outpatient settings in Portugal using interrupted time series and control interrupted time series.
- The decree had a small effect at the national level for DRG 60.

Abstract citation ID: ckae144.2093
Economic burden of suicide in Sweden in 2022

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Background: Suicide and suicidal behaviors bring massive human, social and economic impacts. Estimates of the cost of suicide can give some guidance as to where research on developing new interventions might be focused to give the greatest potential gain. The aim of the study is to quantify the economic cost of suicide in Sweden in 2022.

Methods: Incidence of suicide attempts and mortality due to suicide, intentional and undetermined (ICD10 X60-X84 and Y10-Y34) were sourced from the Swedish National Board of Health and Welfare databases for 2022. Cost were estimated from a societal perspective, including costs for inpatient and outpatient care, medication, police and justice activities as well as productivity losses due to early mortality.

Results: In 2022, a total of 1,569 suicide death were registered in Sweden (1,102 men and 467 women). The incidence rate remains stable during the last ten years, 17 death per 100 000. In total, 18,854 patients (10, 359 women and 8,459 men) were treated in inpatient and outpatient hospital care with suicide-related diagnoses, generated 32,843 days in inpatient care and 11,471 outpatient care visits. Direct costs for suicide death including forensic examination, emergency services, police investigation and property damage were estimated as €6,02 million, while indirect costs for productivity losses totaled €690 million. Direct healthcare costs for suicide related treatment were estimated at €54.3 million. Overall, suicide and suicide attempts cost around €750 million per year to society.

Conclusions: Estimates of the economic burden of suicide are needed for the Swedish setting, and these amounted to €60.3 million in direct costs and €690 million in indirect costs in 2022. The cost might be underestimated because the societal cost of suicide bereaved persons was not considered. These cost estimates can provide useful inputs to a cost-effectiveness analysis of a specific preventive intervention, and to its subsequent evaluation.

Key messages:

- Economic burden of suicide is substantial for society.
- Public health policies aimed at the prevention of suicide should be increased.

Abstract citation ID: ckae144.2094

Productivity loss due to acute COVID-19 and post COVID-19 condition in the Northern Netherlands

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Introduction: The COVID-19 pandemic caused significant socioeconomic and health shocks worldwide. Yet, research is still scarce on how acute COVID-19 and post COVID-19 condition (PCC) have impacted workers productivity in terms of absenteeism, presenteeism and reduced unpaid work. This study examines the effect of acute COVID-19 and PCC on Dutch workers' loss of work productivity in standardized hourly costs compared to those with neither disease.

Methods: This study included data from 31 waves (March 2020 - October 2022) of the Lifelines COVID-19 cohort, a populational cohort from the Netherlands. Productivity was measured in 7 waves in terms of absenteeism, presenteeism, and loss of unpaid work using the Medical Technology Assessment Productivity Costs Questionnaire. We selected workers aged 18 to 64 in the first wave ($n = 10{,}950$). Using administrative data, average hourly costs of productivity were calculated as 38.67€ for absenteeism and presenteeism and 15.94€ for unpaid work. The friction cost method was used. To compare group differences, a Kruskal-Wallis rank sum test with Holms-Bonferroni p-value adjustment was performed.

Results: In total, 33.4% of participants had acute COVID-19, 5.7% had PCC, and 60.9% had neither disease. The mean total combined productivity loss per person of those with PCC was 7,118€, compared to 3,410€ for those with acute COVID-19, and 3,076€ for those with neither. When comparing groups, significant differences in costs were found for all aspects of productivity, except for unpaid work loss between acute COVID-19 and those with neither disease.

Discussion: Although the number of people with acute COVID-19 represents a large societal cost in terms of accumulated loss, those with PCC incurred on average twice as much productivity losses per person across all domains. This study highlights the high costs associated with PCC, which continues to chronically burden workers. Policies should be aimed at lessening this burden.

Key messages:

- Post COVID-19 condition is associated with significantly higher average productivity costs per person than acute COVID-19, which highlights the individual burden of this chronic disease.
- Acute COVID-19, despite relatively lower average productivity costs, represents a large societal cost in terms of accumulated loss.

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Mapping the Out-of-Pocket Healthcare Costs for Terminal Cancer Patients across Europe

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Background: In many countries, including those with universal health insurance, cost-sharing for healthcare is prevalent, resulting in out-of-pocket expenses for cancer patients. However, the proportion of government contribution to national healthcare expenditure varies across countries. This study aims to determine the prevalence and magnitude of out-of-pocket expenditure among cancer decedents in their final year of life and to assess whether decedents' characteristics or their country's welfare regime have a greater impact on out-of-pocket expenditure.

Methods: SHARE data was analyzed for individuals aged 50 and above from seven European countries (including Israel) who passed away from cancer. Interviews were conducted with the decedents' family members to gather information about out-of-pocket expenditure on behalf of their deceased relatives.

Results: The study identified 1,950 cancer decedents with an average age of 74.4 (S.D.=9.39), of which 58.0 percent were male. In their last year of life, 58 percent of the decedents incurred out-of-pocket expenditure on healthcare services. The welfare regime is found to be the primary factor influencing the likelihood of out-of-pocket expenditure, while patients' characteristics have minimal impact. The proportion of out-of-pocket expenditure varies significantly across welfare regimes, with the highest probability observed in the Continental and Social Democratic regimes and the lowest in the Mediterranean and East European regimes.

Conclusions: A country's welfare regime plays a crucial role in determining the generosity of its public healthcare spending and its ability to alleviate the financial burden on the households of cancer patients. Increasing public funding for cancer care may reduce patients' out-of-pocket expenditure in all countries, particularly in those where out-of-pocket expenditure is the highest.

Key messages:

- A country's welfare regime significantly impacts the likelihood and magnitude of out-of-pocket healthcare expenditure for cancer patients in their last year of life.
- Increasing public funding for cancer care may help reduce the financial burden on patients and their families, particularly in countries with high out-of-pocket expenditure.

Abstract citation ID: ckae144.2096

From crisis to chronic: a comparative analysis of Long COVID impact in Italy and the United States

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Background: The aftermath of COVID-19 is bringing about socioeconomic consequences, such as diminished quality of life (QoL), decreased productivity, and considerable healthcare expenditures. Despite the emerging acknowledgment of a clinical syndrome following COVID-19 disease, known as Long COVID (LC), notable research gaps persist. This study aims to assess the epidemiological and economic impact of LC in both Italy and the United States (US).

Methods: This ecological analysis comprises epidemiologic and economic data from 2020 to January 2023, regarding working-age individuals (18-64 years). An Italy/US incidence rate ratio (eIRR) was estimated to compute LC cases in each country. The product between the value of a year spent in good health, individual Quality-Adjusted Life Year (QALY) loss, and LC cases yielded total lost QoL. Temporary productivity loss (TPL) was calculated through the Human Capital Approach. All estimates were deemed significant at a p-value less than 0.05.

Results: Up to date, the eIRR was 0.78 [0.43 - 0.91] implying 22% fewer LC cases in Italy with respect to the US. Total LC cases were 11 [8.7 - 13.5] and 1.8 [0.9 - 2.1] million in the US and Italy, respectively. The relative QALYs loss was 1.5 [0.8 - 3.1] and 0.2 [0.1 -

0.9] million. Reduced QoL cost roughly $189 [164 - 214] billion in the US and €6 [1 - 11] billion in Italy. TPL amounted to $37 [21 - 57] billion in the US and €2.8 [1.2 - 7.4] billion in Italy. Americans aged 30-39 years showed the largest income loss (26.6%), while in Italy it occurred in the age group 50-64 years (38%).

Conclusions: LC places a substantial burden in Italy and the US, impacting both the productivity of the working-age population and influencing the younger generation, who constitute the future workforce. Our study underpins the necessity for comprehensive health policies, programs, and interventions alongside effective tertiary prevention strategies to tackle the challenges posed by LC.

Key messages:

- According to this analysis, both countries show significant productivity and quality-adjusted life years loss due to LC among working age individuals.
- Steering the formulation of evidence-based sounding health policies to address LC burden, among working age individuals, both in Italy and in the US.

Abstract citation ID: ckae144.2097
Factors Affecting Household Health Expenditures: Evidence from Iran

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Background: Productivity plays a crucial role in driving economic growth, and its primary determinant is human capital. Human capital, in turn, is influenced by health and education investments, leading both households and governments to allocate substantial resources toward these sectors. Understanding the factors influencing health expenses is vital for designing effective policies.

Methods: This study investigates the factors affecting health costs by analyzing data from various provinces in the Islamic Republic of Iran, spanning from 2006 to 2019. The data, sourced from the Statistics Center of Iran, was analyzed using the panel data approach to uncover the relationships between health expenditure and several key variables.

Results: The analysis revealed significant disparities in health expenditure among provinces. Sistan & Baluchestan had the lowest health expenditure per household, while Tehran reported the highest. Inflation emerged as a significant factor, having a negative impact on health expenses due to its influence on purchasing power. Conversely, the education and salary of household heads had a positive impact on health expenditure. Notably, economic growth did not exhibit a significant relationship with health expenses.

Conclusions: The study highlights the importance of education and income levels in shaping health expenditures, while inflation can curtail spending on health due to reduced purchasing power. Policymakers should consider these factors to ensure equitable and effective allocation of health resources.

Key messages:

- Improving health and well-being, essential for comprehensive progress and human development, relies significantly on household health expenditure.
- The efforts to enhance human capital should focus on reducing inflation.

DU. Poster display: Public health monitoring, reporting and foresight

Abstract citation ID: ckae144.2098
Using advanced computing to improve outcome monitoring in substance use disorder treatment in Alaska

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Issue: In Alaska, crime associated with substance misuse is a massive public health and safety concern costing over $2.3 billion annually. Government officials make substantial investments to address this challenge but have little ability to monitor the long-term effectiveness of these interventions. Treatment providers are also stifled by minimal feedback regarding their lasting impact. While government databases exist that contain relevant information related to long-term treatment outcomes, low knowledge transfer continues to occur between these big data systems and treatment providers.

Description: To determine if emerging database technology can effectively monitor long-term recidivism outcomes, a prototype was implemented by Alaska's leading treatment provider, Set Free Alaska. The Recidivism Tracking Interface is an innovative database system that strategically connects treatment records with the criminal justice system database. While maintaining high confidentiality and security standards, the first-of-its-kind interface assessed long-term recidivism outcomes of Set Free Alaska's former clients from 2010 to 2023.

Results: Of those who successfully completed treatment (n = 970), only 12.06% were convicted of a new crime with an average of 1,167 days between discharge and new criminal charges. The current recidivism rate in Alaska is 66.3%. In addition to recidivism outcomes, the interface also revealed data incredibly useful for informing treatment services and relapse prevention practices. The Recidivism Tracking Interface effectively demonstrated that advanced computing systems can be utilized to monitor long-term outcomes in a manner that was previously unavailable to treatment providers.

Lessons: In the age of advanced cloud computing and generative AI, treatment providers around the world and their government partners can overcome current knowledge transfer barriers to monitor long-term outcomes in a manner that is automated, inexpensive, and easy to use.

Key messages:

- Advanced computing offers new opportunities to improve long-term outcome monitoring.
- Expanding secure access to relevant government databases can ultimately improve treatment outcomes and advance outcome-based funding models.

Abstract citation ID: ckae144.2099
Fall risk factors and prevention among older adults in primary care in Belgium, 2019-2021

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Background: Falls are a major public health problem and ageing populations further increase the burden of fall-induced injuries. Falling among older persons is a multifactorial health condition needing multifactorial care. General practitioners (GPs) are well placed to implement a multifactorial management. A surveillance study of accidental falls studied characteristics of falls, risk groups and fall risk factors as well as fall prevention by GPs.

Methods: A 3-year retrospective population-based study by the Belgian network of Sentinel General Practitioners (SGP) on all patients aged $\geq$ 65 years consulting their GP for new fall-related injuries.

Descriptive statistics were used to characterize falls, fallers, fall risks and preventive measures. Logistic regression analyses were performed to identify factors associated with a multifactorial fall risk profile.

Results: During 2019-21, 1138 accidental falls were registered. Medical and/or nursing intervention was required for 24% and 22% had a severe injury. During consult, 30% was referred to hospital. 61% of patients showed at least one of the four most prevalent fall risks, i.e. deficits of mobility or balance, polypharmacy, cognitive impairment or psychotropic medication. A multifactorial fall risk profile was observed in 45% of fallers and was associated with recurrent falling ($p < 0.001$), fall location ($p < 0.05$), activity when falling ($p < 0.01$) and pandemic year 2020 ($p < 0.05$). Addressing surrounding and walking problems were the most frequently delivered preventive measures. For 28% of patients, other primary care providers (mainly nurse and physiotherapist) were involved in preventive care.

Conclusions: This study highlights the importance of identifying fall risk factors among fallers in primary care. Preventive fall measures, taken in about one in four general practice patients in collaboration with other healthcare providers, are crucial for preventing accidental falls in older persons in Belgium.

Key messages:

- A multifactorial management of fall risk factors by GPs is crucial for preventing accidental falls in older primary care patients.
- Strengthening collaboration between primary healthcare professionals is needed for improving fall prevention in Belgium.

Abstract citation ID: ckae144.2100
Gendered trends in unpaid labour by educational level in Sweden 2004-2022

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Background: Unpaid labour has recently been recognised as an important yet neglected social determinant of health. Our aim was to investigate the gendered trends in unpaid labour/domestic work by educational level in prime working-age Swedish adults (30-49 years) from 2004-2022.

Methods: The study is based on a postal survey sent to a random general population sample of adults from central Sweden in 2004, 2008, 2012, 2017 and 2022. The 30-49-year age group included between 5,500 and 12,200 respondents depending on the survey year. Trends in hours spent in domestic work and in experiencing domestic work as burdensome by gender and educational level were estimated by age-standardised proportions with corresponding 95% confidence intervals.

Results: Women reported spending more time in domestic work than men throughout every survey period from 2004 to 2022. For example, in 2022, 31% of women spent more than 20 hours per week in domestic work compared to 20% of men. Over time, hours spent in domestic work decreased in women whereas no trend was observed in men. Among women, educational level appeared to make no difference to prevalence of high domestic work time whereas, among men, it was consistently greater among those with higher educational levels. In general, women experienced domestic work as burdensome to a higher degree than men did.

Conclusions: As gender differences in unpaid labour/domestic work persist in Sweden, more effort is needed to implement social policies to increase men's participation in domestic work, especially among men with low and middle educational levels, which has the potential to reduce gendered health inequities.

Key messages:

- Amongst Swedish adults aged 30-49 years, the gender gap in unpaid labour has declined during the last two decades, but this is only due to women reducing their domestic work time.
- For men, prevalence of high domestic work time was consistently greater among those with higher educational levels, whereas no difference was observed among women.

Abstract citation ID: ckae144.2101
Prevalence of potentially inappropriate medication use in the older population living in Germany

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Background: Potentially inappropriate medications (PIM) are medicines for which the risks for adverse events (AEs) usually outweigh the clinical benefits in older adults. PIM is associated with an increased risk of AEs, hospitalizations, mortality and higher health care costs. This analysis presents the prevalence of PIM use and associated factors in people aged 66+ years living in Germany.

Methods: Data from the nationally representative Study on Health of Older People in Germany (Gesundheit 65+) conducted between 2021-2023 by the Robert Koch Institute, was analyzed. All medicines used, prescribed and over-the-counter (OTC), in the 7 days before the interview were classified into anatomical therapeutic chemical codes. PIM use was identified based on the PRISCUS 2.0 list. Weighted prevalences and associated factors for PIM use are presented.

Results: 96% of the sample ($N = 1,474$) took at least 1 medication in the 7 days before the interview. The prevalence of PIM use was 29% (95% CI: 26%-32%), 23% took 1 PIM and 6% 2+. There were no sex differences but a significant increase with age: 23% in the age group 66-74, 33% in the age group 75-84, and 39% in the age group 85 + (29% 1 PIM and 10% 2+). People with a low educational level had a PIM prevalence of 32% compared to 21% in those with a high educational level. Among those reporting having chronic diseases, the PIM prevalence was 34% compared to 19% among those not reporting them. The prevalence of PIM increased with the number of medicines used: 13% in 1-4 medicines, 31% in 5-9 medicines, and 53% in 10+ medicines. The most frequently used PIM in this sample was ginkgo biloba leaf extract (plant-based antidementia drug) followed by diclofenac (non-steroidal anti-inflammatory drug), and then by tricyclic antidepressant drugs (opipramol and amitriptyline).

Conclusions: PIM use was higher than suggested by prescription data analysis. It was associated with higher age, chronic diseases, polypharmacy and a low educational level.

Key messages:

- PIM use was common, affecting more people with chronic diseases, older age groups and people with a low educational level.
- Strategies to promote and monitor appropriate medication use are needed.

Abstract citation ID: ckae144.2102
Health Impacts of Disasters and Social Indicators: An Ecological Study

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The objective of this study is to investigate the correlation between certain social indicators and the mortality and morbidity in disasters recorded in the EM-DAT database within countries in the last decade. The correlation between the mortality and morbidity in disasters recorded in the EM-DAT database between March 1, 2014-2024 and the most recent data on Human Development Index (HDI), Gender Inequality Index (GII), Gini Coefficient (GC), Government Health Expenditure as a share of GDP (GHE/GDP) and Corruption Perception Index (CPI) were analyzed. During the period of the study, disasters from a total of 207 countries/regions were recorded in the database. The median (IQR) values of countries in disasters were found to be 35.1 (67.5) for death per million and 76.3 (783.0) for injury per million. The most frequent types of disasters, the most frequent cause of mortality and the most frequent cause of injury in each country were found to be floods, extreme temperatures, and epidemics, respectively. While there was no significant difference between the social indicators analyzed and the total number of deaths, there was a negative correlation between the number of injuries and the HDI, CPI, GHE/GDP values of the countries, and a positive correlation between the GC and GII values (for all tests, Spearman correlation test, $p < 0.001$). The correlation coefficient was interpreted as 'weak' in all other pairwise analyses except for the GHE/GDP value (moderate). Countries with social indicators closer to the positive threshold have been found to have less injuries in disasters. The possible reason for the insignificant correlation with the mortality is thought to be the difficulties in detecting mortality, especially in 'extreme temperatures', and the fact that it is mostly recorded in countries where social indicators are relatively more advanced. More research is needed to investigate the relationality between social indicators and disaster harms.

Key messages:

- Disasters are critical mediators between social determinants and health. Addressing and reducing inequalities should remain on the public health agenda to prevent disasters and protect health.
- Analysis of disasters shows that 'extreme temperatures', which cause the most deaths in some countries, are barely detected in developing countries. Disaster recording systems need to be strengthened.

Abstract citation ID: ckae144.2103
Exploring the dynamics of alcohol use, poverty and the role of social context in Athens, Greece

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Background: A body of research conducted across diverse national context, including the United Kingdom, Russia, Denmark and Norway, shows a robust link between poverty and increased alcohol related harm, even after accounting for different drinking patterns. This paper examines the unexplored relationship between poverty and alcohol use in Athens, Greece, focusing on alcohol's impact related to the familial and social life of individuals and whether this system is affected by poverty.

Methods: This is a 2021 cross-sectional study, with 300 adult participants of mean age 45.8. We administered four questionnaires. The participants were equally distributed above and below the poverty threshold, sampled randomly. The latter were beneficiaries of social services. The data analysis established two scoring variables: the level of dysfunction from alcohol use and the level of strength of family ties. We computed their correlation and multiple linear regressions to assess their relationships.

Results: Individuals not residing in poverty exhibit a higher frequency of alcohol use (81.9%) than their counterparts (57.1%), however, those living in poverty tend to consume greater quantities of alcohol per occasion ($p < 0.001$) and reported elevated levels of dysfunction within familial and social interactions.

Conclusions: This study indicates that different consumption patterns are tied to diverse socioeconomic strata, with binge drinking behaviours specifically linked to financial hardship. Also, alcohol related dysfunction and family and social dynamics are affected by poverty. Our findings show that as dysfunction attributed to alcohol use increases, participants socialize less and report lower levels of well-being. In contrast those with balanced family ties and social encounters exhibit the opposite trend. This study warrants further exploration in cities in Southern Europe.

Key messages:

- To mitigate alcohol use, policies empowering social and familial connections are of high importance.
- Uncovering poverty as a factor for binge drinking can inform prevention strategies.

Abstract citation ID: ckae144.2104
Non-medical use of tranquilizers and sedatives by 15-16-year-old adolescents in Estonia, 2003–2019

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Background: Non-medical use of prescription drugs has become a global concern in recent decades. This study aimed to explore trends in non-medical tranquilizers and sedatives use (NTSU) among adolescents in Estonia from 2003 to 2019.

Methods: Utilizing data from the cross-sectional European School Survey Project on Alcohol and Other Drugs (ESPAD) conducted in 2003-2019, study included 15-16-year-old Estonian schoolchildren ($n = 11{,}328$; 48.6% boys). Cochran-Armitage test was employed to assess changes in NTSU trends, with statistical significance set at $p < 0.05$. Prevalence rates and 95% CIs used as outcome measures.

Results: From 2003 to 2019, the lifetime prevalence of NTSU significantly increased for both genders, with girls consistently showing higher rates. Among boys, NTSU rose from 5.0% (95% CI 3.8-6.5) to 11.3% (95% CI 9.6-13.3), particularly among those reporting NTSU 1-2 times, from 3.0% (95% CI 2.1-4.2) to 8.2% (95% CI 6.7-9.9), $p < 0.001$. Similarly, for girls, NTSU rose from 12.6% (95% CI 10.7-14.7) to 17.5% (95% CI 15.4-19.7), $p < 0.001$. There was an increase among girls reporting NTSU 1-2 times from 7.5% (95% CI 6.0-9.2) to 10.6% (95% CI 9.0-12.4), $p < 0.001$, and those reporting NTSU three or more times, from 5.1% (95% CI 3.9-6.6) to 6.9% (95% CI 5.6-8.4), $p = 0.017$. Among boys reporting medical tranquilizers and sedatives use (MTSU), NTSU rose from 21.1% (95% CI 13.9 to 30.0) in 2003 to 41.4% (95% CI 32.3 to 50.9) in 2019, $p = 0.006$. However, there was no statistically significant change in NTSU among girls reporting MTSU, remaining at 44.1% (95% CI 36.0 to 52.4) in 2019, $p = 0.951$.

Conclusions: Study reveals a significant increase in lifetime NTSU from 2003 to 2019, with girls consistently showing higher prevalence. Targeted interventions are needed to address adolescent non-medical prescription drug use, particularly among girls. Moreover, substantial NTSU among those reporting MTSU highlights the need to monitor and address non-medical usage in this subgroup.

Key messages:

- Estonian adolescent non-medical tranquilizers and sedatives use surged from 2003 to 2019, particularly among girls, highlighting the need for targeted interventions.
- The high prevalence of non-medical tranquilizer and sedative use among those reporting medical tranquilizer and sedative use underscores the necessity for vigilant monitoring.

Abstract citation ID: ckae144.2105
The impact of garbage codes on the quality of death coding in Belgrade in 2010, 2015, and 2020

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Background: Accurate data on the causes of death (CoDs) is the foundation for analyzing the health situation and developing health policy in various countries. The percentage of garbage codes (GCs) indicates the quality of the CoDs data. Within the Western Balkan Strategic Partnership Project (Work Package 4: Use of Population Health Metrics for Improved Surveillance), we evaluated the impact of the four levels of GCs on the quality of mortality data of Belgrade.

Methods: In a retrospective study, we examined the underlying CoDs of Belgrade residents by age and sex and the change in GCs' share in the CoDs in 2010, 2015, and 2020. We used anonymous individual mortality data and population age and sex annual data from the electronic databases of the City Institute of Public Health of Belgrade, as well as the list of GS levels 1-4 from the 2019 Global Burden of Disease Study.

Results: Over the observed years, the percentage of all GCs in underlying CoDs was approximately 20%. The GCs with profound policy implications level 1 accounted for 52% of all GCs in 2020, higher than those recorded in previous years - 46.3% in 2010 and 45.1% in 2015. The total number of GCs per 100,000 inhabitants in Belgrade was the highest in 2020, with a rate of 325.2/100,000 (males: 374.4, females: 301.3). This rate has increased by about one-third since 2010 (both sexes: 245.4, males: 269.2, females: 221.1) and by about two-fifths since 2015 (both sexes: 235.8, males: 262.7, females: 211.8).

Conclusions: This research has revealed a significant decline in the quality of data related to the causes of death in Belgrade. One-fifth of the recorded causes of death are inaccurate or unreliable. The study highlights the importance of maintaining strict protocols for data collection, analysis, and management to ensure the accuracy and reliability of CoDs data in developing effective public health policies.

Key messages:

- The rate of total garbage codes per 100,000 inhabitants of Belgrade has increased by about two-fifths since 2015.
- Failure in quality, accuracy, and reliability of causes of death can lead to suboptimal health policymaking.

Abstract citation ID: ckae144.2106
The burden of executive dysfunction after ischemic stroke (Bulgaria, 2019-2021)

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Background: Executive dysfunctions have great impact on behavior and quality of life in elderly. They also play important role for post-stroke functional outcome. The aim of our study was to examine the frequency, severity and types of executive dysfunctions at the third month after the ischemic stroke.

Methods: We examined 108 patients 3 months after ischemic stroke (66.67±9.03 years old, 66 males and 42 females) via 128-Wisconsin Card Sorting Test (WCST). WCST is a standardized instrument for detecting various executive dysfunctions. It is applicable for patients after stroke, because the test doesn't require preserved arm motor functions. It measures global executive functioning (GEF), inhibitory control system (ICS), executive attention (EA), cognitive flexibility (CF) and working memory (WM). Our patients' results were compared to the normal population test results. SPSS 24 was used for statistical analysis.

Results: Impaired GEF were found in 46% of our patients, most of them had mild or moderate impairment. One fourth of them showed impaired ICS, although the impairment in most of the cases was mild. EA deficits were found in 43% of our cases (17% had mild, 15% mild to moderate, 7% moderate and 4% severe impairment). WM dysfunction was found in 1/3 of them (the average result was about 27 percentiles; 29% had mild and 5% had mild to moderate deficits) and about ¼ of our patients had borderline results. CF was impaired in 68% of our patients (11% had mild, 28% mild to moderate, 16% moderate and 13% severe impairment).

Conclusions: GEF impairment is frequent after stroke. Patients had problems in ICS, EA, CF and WM. However, in most of the cases the dysfunction is mild or moderate and can be found only if it is actively searched and accessed. The most impaired functions were CF and EA. Patients with executive dysfunction require cognitive rehabilitation and specific social support.

Key messages:

- Executive dysfunctions are frequent after ischemic stroke. The impairment is mild or moderate, but however it impacts the quality of life, behavior, prognosis and outcome of post-stroke survivors.
- Patients with executive dysfunctions require specific cognitive rehabilitation and social support.

Abstract citation ID: ckae144.2107
Assessing the severity of COVID-19 waves: beware of surveillance bias

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Background: Indicators to assess the severity of epidemic waves during the COVID-19 pandemic were influenced by differences in detection modalities over time, leading to surveillance bias. We compared four indicators across three pandemic periods to assess surveillance bias.

Methods: We used data from one region of Switzerland. We compared seroprevalence, cases, hospitalizations, and deaths during three periods (period 1: Feb-Oct 2020, including the 1st wave; period 2: Oct 2020-Feb 2021, including the 2nd wave; period 3: Feb-Aug 2021, including the 3rd wave and after the start of the vaccination campaign). Data were retrieved from the Swiss Federal Office of Public Health or population-based studies. We compared each indicator to a reference indicator (seroprevalence during periods 1 and 2 and hospitalizations during period 3). We also assessed the timeliness of the indicators, i.e., the duration from data generation to the availability of the information to decision-makers.

Results: According to seroprevalence estimates, the severity of the 2nd wave was slightly larger (by a ratio of 1.4) than the severity of the 1st wave. Compared to seroprevalence, cases largely overestimated the 2nd wave severity (2nd vs 1st wave ratio: 6.5) while hospitalizations (ratio: 2.2) and deaths (ratio: 2.9) were more suitable to compare the severity of these waves. According to hospitalizations, the 3rd wave severity was slightly smaller (by ratio of 0.7) than the 2nd wave. Compared to hospitalizations, cases or deaths slightly underestimated the 3rd wave severity (3rd vs 2nd wave ratio for cases: 0.5; for deaths: 0.4) and seroprevalence was very biased due to high vaccination rates. Across all waves, timeliness for cases and hospitalizations was better than for deaths or seroprevalence.

Conclusions: To assess the severity of pandemic waves accounting for surveillance bias, different types of indicators must be used across time.

Key messages:

- Differences in detection modalities over time can skew the assessment of the severity of COVID-19 pandemic waves, leading to surveillance bias.
- The effectiveness of indicators in describing the severity of COVID-19 pandemic waves depends on the type of indicator used and the stage of the pandemic.

Abstract citation ID: ckae144.2108
Quality indicators of long-term care for older people in OECD countries; a rapid scoping review

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Background: The COVID-19 pandemic has exposed the vulnerability of older people living in long-term care facilities (LTCF), highlighting the urgent need for research on the quality of care for this group of the population. There is no universal definition for quality of care in LTCF, and yet, multiple tools and indicators have been developed to measure it. In this rapid scoping review, we aim to provide a comprehensive overview of the current knowledge on quality of care concepts and indicators for older people in LTCF in OECD countries.

Methods: This review follows the World Health Organization (WHO) guide for rapid reviews and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA-ScR) extension for scoping reviews, including protocol registration (https://doi.org/10.17605/OSF.IO/34B2S). The electronic bibliographic databases MEDLINE (PubMed), EMBASE, and CINAHL were searched in September 2023 for studies published between 2013 and 2023 for quality indicators in LTCF. Experts in quality of care in LTCF were contacted and consulted to retrieve sources of grey literature. Information on the definition or framework of quality of care, quality of care dimensions, measurement instruments, context and purpose of the measurement will be extracted.

Results: Of the 8,516 identified records, 6,449 were screened by title and abstract after removing duplicates. A total of 469 publications will be screened in full-text. Experts recommended 40 websites to be screened for quality indicators. The PRISMA flowchart diagram will be provided to describe the selection process.

Conclusions: This review aims to improve the quality of care for older people living in LTCF. Our results will identify which concepts and dimensions of care are currently being measured in OECD countries, whether they are backed by any definition and scientific framework of quality of care for older residents of LTCF, and whether there is consideration of closing gaps in quality measurement.

Key messages:

- Quality of care is an understudied field in the context of long-term care facilities for older people.
- In order to further improve quality in long-term care for older people, it is necessary to systematically review the current state of knowledge on quality concepts and indicators.

Abstract citation ID: ckae144.2109
Characteristics of web-based and paper-based respondents in The Danish Capital Region Health Survey

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Background and aim: This study aims to investigate the potential impact of adopting web-only surveys on the representativeness of survey participants by examining the sociodemographic characteristics of participants in the Danish Capital Region Health Survey (DCRHS) who respond online versus those who respond using a paper-based questionnaire.

Methods: The study utilizes data from the DCRHS including participants invited by a mixed-mode approach and given the choice to respond to a web-based or paper-based questionnaire in 2021 ($N = 53{,}874$) and 2017 ($N = 51{,}902$). Information on age and sex was obtained from national registers.

Results: The proportion of paper respondents decreased significantly from 18% in 2017 to 16% in 2021. In both years, women had higher odds of responding on paper compared with men ($OR = 1.20$; 95% CI: 1.16-1.24). In 2017, the highest prevalence of paper respondents was observed among participants aged ≥80 (29%) and 16-24 years (21%). In 2021, the highest prevalence was likewise observed among participants aged ≥80 (28%) but with the second highest among the 65-79 years age group (17%). The decrease in paper responses from 2017 to 2021 varied across age groups, with a greater decrease among younger participants than among older participants.

Conclusions: This study highlights the potential risk of excluding a significant proportion of elderly citizens from large population surveys if the web-based response option is the only option provided. Elderly individuals are less likely than younger individuals to switch to digital responses, emphasizing the importance of considering alternative modes of data collection to ensure representativeness in survey samples.

Key messages:
- The use of web-only surveys has increased; however, we risk excluding a significant proportion of elderly citizens from large population surveys if only the web-based response option is provided.
- Elderly individuals are less likely to switch to digital responses, emphasizing the importance of considering alternative modes of data collection to ensure representativeness in survey samples.

Abstract citation ID: ckae144.2110
Optimizing Colorectal Screening in Portugal with Process Mining

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Background: Efficient healthcare screening programs management influences patient outcomes. Process mining has emerged as a powerful tool to enhance these programs by refining complex workflows and pinpointing operational deviations.

Objectives: This study utilizes process mining techniques to analyze the colorectal cancer screening program in Northern Portugal, focusing on detecting deviations and performance bottlenecks in process models.

Methods: This screening program started in March 2018, but process mining was only used on data posterior to 2020. Over 1 million case observations from administrative data were included in the process model analysis, involving more than six key process activities and numerous resources. We used new software and statistical tools for process mining to rapidly compute observations and filter for different operational needs and monitor interventions.

Results: The discovery analysis identified deviations, such as unexpected performance issues and irregular activity sequences. Although over 100 traces were identified, fewer than five traces accounted for more than 90% of all case paths, indicating the most common traces that have a true impact in participation rates, referral rates, and treatment rates. Notable differences in resource performance during specific periods, such as COVID-19 or seasonal events, were also observed. These findings provided insights for adjusting resource allocation and improving coordination, with impact in minimizing seasonal phenomena or peak production periods.

Lessons: Process mining offers actionable insights for effective health program coordination, enabling the monitoring and timely response to process deviations. With key areas for action identified in a more timely and precise manner, we can enhance efficiency, and expand population coverage and treatment referral. Future initiatives will focus on further process optimization and national coverage expansion using these management tools.

Key messages:
- Process mining revolutionizes healthcare by enabling the strategic management of complex oncological screening program workflows.
- Comprehensive data analysis across the patient pathway enhances program efficiency and expands treatment access.

Abstract citation ID: ckae144.2111
Associations of adolescent academic performance, sports, disordered eating, and menstrual dysfunction

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Background: Regular menstruation is a crucial indicator of comprehensive well-being in adolescents. We aimed to assess risk factors associated with menstrual cycle dysfunction in a population-based cohort of high school students, focusing on academic performance, sports participation, and disordered eating.

Methods: In 2022, we recruited 1161 female first-year students from 21 diverse high schools in the capital region of Finland. They completed an online survey comprising questions about menstrual cycle, academic achievement, sports involvement, disordered eating and school burnout.

Results: Of 935 (81%) participants (mean age 16) not using hormonal preparations, 336 (37%) reported irregular menstruation. Adolescents with irregular menstruation showed higher middle school grade point average (GPA) (OR 1.4, 95% CI 1.1-1.8), lower body mass index (OR 2.2, 95% CI 1.3-3.5), and more disordered eating symptoms (OR 2.1, 95% CI 1.4-3.0) than adolescents with regular menstruation. While overall physical activity showed no significant correlation with irregular menstruation, casual exercisers with irregular menstruation exhibited both higher GPAs (OR 1.4, 95% CI 1.4-1.9) and more disordered eating symptoms (OR 2.6, 95% CI 1.6-4.1) than competitive athletes, whereas competitive athletes with irregular menstruation showed higher school burnout scores than casual exercisers but no disordered eating.

Conclusions: We recommend the use of screening tools to recognize disordered eating and school burnout among female high school students facing menstrual irregularities.

Key messages:
- A third of adolescent females had irregular menstruation. Casual exercisers with irregular menstrual cycle were at risk of eating disorders and competitive athletes at risk of school burnout.
- Screening of disordered eating and school burnout among adolescent females facing menstrual irregularities could be beneficial.

Abstract citation ID: ckae144.2112
Prevalence of adults with fatigue in Germany: results of the 'German Health Update 2023' study

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Background: Fatigue is a non-specific symptom complex associated with exhaustion, lack of motivation and concentration. It has high public health relevance due to impairments in quality of life and work ability and increased risk of accidents. Fatigue has increasingly gained attention as one of the most common post-acute consequences of SARS-CoV-2 infection. Fatigue is also common among non-infected people and there is a lack of population-based background data. Therefore, we investigated the prevalence and factors associated with fatigue in a population-based epidemiological study in Germany.

Methods: The analyses are part of the national population-based cross-sectional telephone survey 'German Health Update' (GEDA 2023) in adults (3/2023-2/2024). Fatigue was surveyed using the Fatigue Assessment Scale (FAS) and dichotomized into yes (at least mild/moderate) versus no fatigue. The FAS is an instrument for mild-to-moderate fatigue, which must be distinguished from chronic fatigue syndrome (CFS). Weighted analyses of the data from 9,766 adults were carried out descriptively and in multivariable Poisson models, considering sociodemographic and health-related determinants.

Results: The prevalence of fatigue in Germany was estimated to be 29.7% (95% CI 28.1-31.2) and was highest in 18- to 29-year-olds at 39.6% (35.0-44.4). The prevalence decreased up to 65- to 79- year-olds (20.6% (18.2-23.3)) and was again higher in people aged 80 and over (33.2% (28.9-37.7)). Women had a higher risk of fatigue than men (aRR 1.19 (1.08-1.32)). Lower education (aRR 1.29 (1.13-1.49)) and medium education (aRR 1.13 (1.01-1.27)) were associated with increased risk of fatigue. There were significant associations between fatigue and chronic illness, depressive symptoms and long COVID.

Conclusions: Fatigue is a common symptom among adults in Germany. Female gender, young and very old adulthood as well as lower education are associated with higher risk of fatigue.

Key messages:

- The correlations between fatigue and socio-demographic variables as well as parameters of physical and mental health provide important indications of groups particularly affected by fatigue.
- The fatigue survey in GEDA 2023 is one of the few current European studies that describe the frequency of fatigue in the general population and analyzes health and sociodemographic determinants.

Abstract citation ID: ckae144.2113
The burden of sepsis in Italy: an analysis of treatable mortality trends

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Background: The burden of sepsis, a life-threatening condition triggered by the body's extreme response to infection, remains a critical global healthcare concern. Sepsis-related deaths often result from delayed recognition, insufficient treatment, or gaps in healthcare delivery. The study aims to analyze treatable mortality for sepsis in Italy and its regions.

Methods: A retrospective study was conducted on data of treatable mortality for sepsis in Italy and its regions. According to joint OECD/Eurostat list, we included sepsis deaths with the ICD-10 codes A40 (excl. A40.3 [sepsis due to Streptococcus pneumoniae]) and A41 (excl. A41.3 [sepsis due to Hemophilus influenzae]) from 2006 to 2019. Through data on the resident population two-year age-standardized rates by region were calculated.

Results: From 2006/7 to 2018/9 an overall increase was observed in Italy, from 1.6 to 2.2 age-standardized mortality rates with a maximum peak in 2014/5 (+46.7%). This trend was confirmed for Lombardy (+47.8%), Veneto (+48.8%), Emilia-Romagna (+49.3%), Tuscany (52.0%), Marche (+58.4%%), Abruzzo (39.4%), Molise (26.7%), Apulia (+57.0%), Sicily (+57.2%), and Sardinia (+46.8%). Aosta Valley (+72,5%) had a maximum peak in 2010/1, while Piedmont (+42.5%), Autonomous Province (A.P.) of Bolzano (+27.8%), A.P. of Trento (+45.0%), Friuli-Venezia Giulia (+23.3%) in 2012/3, Calabria (+46.4%) in 2016/7 and lastly Campania (+52.9%) and Basilicata (+73.0%) in 2018/9. Liguria (+49.8%), Latium (47.2%) and Umbria (49.3%) showed two maximum values, one in the 2012/3 and the other in the 2014/5.

Conclusions: We observed an overall increase in age-standardized mortality rates throughout Italy, with a peak in 2014/5. This trend was resumed in ten regions, while three regions showed multiple peaks, indicating fluctuations in mortality rates. These findings underline the importance of targeted health interventions and policy initiatives to address region-specific health challenges.

Key messages:

- Regional disparities in mortality rates highlight the necessity for customized health interventions and policy measures between Italian regions.
- Recognizing fluctuating mortality trends in specific regions is crucial to effectively address various health challenges.

Abstract citation ID: ckae144.2114
Diabetes mellitus EU comorbidity index: using data from EHIS 2019 and GBD disability weights

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Background: Individuals with diabetes mellitus (DM) exhibit several of comorbidity burdens, with lower perceived quality of life also being a factor. Literature on the impact of DM is available, including studies on the index devised by (A. Andreella et al., 2023) for the assessment of comorbidities of health conditions. This study aims to adapt and validate this index for use as a standardized DM comorbidity index within the EU.

Methods: A cross-sectional study was carried out using microdata from the European Health Interview Survey (EHIS) 2019. The study included adults aged 25 years or older who reported having DM ($n = 20,042$) from 27 EU member states. Comorbidity index was calculated to assess the comorbidity of having 9 non-communicable diseases using disability weights obtained from the Global Burden of Disease 2019 and self-perceived general health using multiplicative approach. Beta regression analysis was used to evaluate the association between comorbidity index and several demographic, socio-economic and lifestyle variables. Comorbidity index was calculated for each nomenclature of territorial units for statistics (NUTS 2).

Results: The comorbidity index ranged from 0.049 to 0.993. The results indicated that having a higher education and residing in urban areas were less likely to have a high comorbidity index. Being unemployed or in other employment statuses demonstrated a significant, positive association with the index. Income exhibited a gradual, positive association with each quintile, while consuming fruits and vegetables less than once a week was found to be associated with an increased index. The highest comorbidity index was observed in Calabria (Italy), followed by Lubuskie (Poland), and the lowest was observed in Antwerp (Belgium), followed by Övre Norrland (Sweden).

Conclusions: By identifying comorbidity burden, targeted interventions and regional-specific strategies can be implemented to improve the quality of life for individuals with DM.

Key messages:

- Quantifying the burden of comorbidities allows understanding of health status of DM patients.
- Comorbidity index shows geographic variation in the EU which contributes to tailored policy interventions.

Abstract citation ID: ckae144.2115
Fast lane for decision making: The PHIRI Rapid Exchange Forum

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Issue & Problem: The COVID-19 pandemic demanded swift, yet structured exchange of knowledge, data and good practices between experts and institutions supporting national governments in decision making for crisis response. Thus, in March 2020 population health experts from several European countries started to meet online, complementing the more formal EU Health Security Committee meetings. The European Commission understood the high need of Member States for evidence-based, and structured cross-country exchange and supported it as part of the Population Health Research Infrastructure (www.PHIRI.eu) project. Since then, the PHIRI Rapid Exchange Forum (REF) is a knowledge-sharing platform that brings together public health researchers, practitioners, policymakers, and other stakeholders to share information, experiences, and best practices in public health implementation research even if the EU co-funded PHIRI project has ended. The forum aims to promote collaboration and networking, facilitate the dissemination of research findings, and accelerate the translation of evidence into policy and practice.

Lessons: Through the PHIRI REF, participants can engage in interactive discussions, workshops, and presentations on various public health topics, including infectious diseases, digitalisation, health emergency simulations, health systems strengthening, and community health interventions. The platform is designed to be user-friendly and accessible to all, with a particular focus on European countries. By May 2024, the REF-Secretariat at the Austrian National Public Health Institute GÖG had organised 60 REF meetings, with in average 20 attendees from 12-15 countries. The monthly 1-hour online meetings cover in a moderated, structured format pre-agreed topics that are proposed by the participating countries. All findings and topics are documented and publicly available at the EU Health Information Portal (https://www.healthinformationportal.eu/rapid-exchange-forum).

Key messages:

- The success of the Rapid Exchange Forum highlights the importance of collaboration and information exchange between population health experts in addressing global health challenges.
- Having a pre-established information exchange network on urgent public health issues is of utmost importance as it enables rapid and trustworthy communication among relevant stakeholders.

Abstract citation ID: ckae144.2116
Development of health care expenditures in Finland up to 2040

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Background: Increasing health care expenditures are threatening public health by complicating the supply of adequate health services. Exploration of possible future developments of the expenditures is needed to understand how to prepare for future or to change an unwanted course of development. We provided projections by health care sectors taking into account demographic and other developments.

Methods: We used national data on the realized expenditures per capita by age group, sex and health care sectors from 2017 to 2020, and official forecasts of the population in Finland up to 2040. Future per capita expenditures were projected with Bayesian linear regression models incorporating a priori dependency structure for the slope parameters of the age groups such that the time trends of adjacent groups would be more similar than other groups. These projections were then combined with the population forecasts to estimate the total expenditures.

Results: The greatest increase (164%) was estimated for the total costs of the primary outpatient healthcare: from 2153 to 5677 million euros in 2020-2040, such that 7% of the growth was attributed to demographic developments. The estimated growths were 68% for the primary inpatient healthcare, 14% for the specialised somatic healthcare, and 52% for the urgent and emergency health services, of which 91%, 98% and 21% were attributed to demographic developments, respectively.

Conclusions: Notable increases in expenditures are expected in all considered health care sectors, but there are great differences in the proportions of the growth attributed to demographic developments. Due to the limited role of demographic changes, it is worth focusing on controlling the impacts of other developments by, e.g., improving the population health and the efficiency of the health care system.

Key messages:

- Notable increases are expected in health care expenditures up to 2040.
- Impacts of demographic changes varies markedly between health care sectors.

Abstract citation ID: ckae144.2117
Inclusion of Long Covid patients in the care trajectory post-Covid-19: evidence from Belgium

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Background: Evidence suggests that 10-30% of COVID-19 infected people develop persistent symptoms that can be diagnosed as Long Covid. Most Long Covid cases are in patients with a mild acute COVID-19 infection and are mainly treated in primary health care. In July 2022, a care trajectory (CT) post-Covid-19 was launched in Belgium, in which Long Covid patients can benefit from reimbursement of treatment costs when consulting health professionals in primary health care for their rehabilitation. Patients are included in this CT mainly through their general practitioner (GP) and depending on patients' care needs, treatment is organized in a monodisciplinary or multidisciplinary way.

Methods: A population-based study on data collected by the Belgian network of Sentinel General Practitioners (SGP) on all Long Covid patients consulting their GP during March-December 2023. Information on inclusion in the CT post-Covid-19 was also registered. Descriptive statistics were performed.

Results: End of 2023 in Belgium, GPs initiated the CT post-Covid-19 for more than 1000 patients, this mainly for monodisciplinary treatment, less than 10% of included patients received multidisciplinary follow-up. By the SGP, among the registered Long Covid sufferers ($N = 14$), a total of six cases were included in the CT post-Covid-19. Of these cases, the majority were female, of older age, higher educated and had one or two chronic conditions. Most had a mild or moderate prior COVID-19 infection and all were vaccinated multiple times against COVID-19. Symptoms lasted one year or more for 83.3% of included patients. Treatment focused mainly on self-management, energy management and physical exercise programs, mainly in collaboration with physiotherapists.

Conclusions: This study yields recent data on patients included in the CT post-COVID-19 in primary care in Belgium. It is important to focus on guidance, follow-up and rehabilitation of Long Covid sufferers by healthcare professionals in Belgium.

Key messages:

- Long Covid patients included in the care trajectory post-Covid-19 in Belgium experience years of debilitating symptoms after their prior COVID-19 infection.
- The establishment of the care trajectory post-Covid-19 for Long Covid patients in primary care since July 2022 stimulated collaboration between care givers in Belgian primary health care.

Abstract citation ID: ckae144.2118

The Norwegian Counties Public Health Survey (NCPHS)

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Effective public health initiatives should be based upon a thorough understanding of important health-related factors. The purpose of The Norwegian Counties Public Health Survey (NCPHS) is to gain insights from the adult population on topics relevant for planning of public health policy, interventions, and action at the county and municipality levels. The survey includes a core questionnaire on public health-related topics such as health behaviour, subjective quality of life, distress, subjective health, social support, social capital, community contexts, and demographics, including indicators of socio-economy, with additional optional questions and scales varying across data collections. Samples are drawn from the Norwegian National Population Register. NCPHS was piloted in three counties in 2015 and in one county in 2018. After some revision of instruments and sampling procedures, surveys have been carried out in most Norwegian counties since 2019. The total number of participants has now passed 400 000. Expedient data analysis and reporting has enabled the Norwegian Institute of Public Health to present comprehensive reports within six weeks after completed data collections. In these, outcome variables are analysed against district (within counties), gender, age, educational attainment, and assessment of household economy. Tables are also made available at the municipality level. The NCPHS represent a valuable addition to existing health registries and regional health surveys, providing critical information for planning purposes for local and regional public health authorities, for assessing trends over time, comparisons across counties and regions, and for evaluation of policies and interventions. The value of such a system during times of crises was demonstrated during the COVID-19 pandemic. At the Lisbon 2024 European Public Health conference, a few selected examples of use of data from the NCPHS system will be presented.

Key messages:

- Large-scale community surveys provide important insights for planning of public health policies and action.
- Strong involvement and collaboration with regional and local public health personnell as well as with media and local people is a prerequisite for succeeding.

Abstract citation ID: ckae144.2119

Monitoring the level of health and inequality over time using the Population Health Performance Index

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Background: The Population Health Performance Index (PHPI) is a composite measure that combines average health outcomes and their distribution within a population, thereby allowing for a comprehensive assessment of population health and inequality. The aim of this study is to examine the extent to which the PHPI adds value to monitoring of health and inequality over time in comparison to absolute and relative inequality.

Methods: Data from the WHO Equity Monitor database on under-5 mortality disaggregated by wealth quintiles for Nepal, Ethiopia, Peru, Rwanda, and Zimbabwe were analysed using different years between 1994 and 2020. Descriptive comparative statistics were employed to assess trends in the PHPI and conventional pairwise measures of absolute and relative inequalities, with consideration of different weights for inequality aversion.

Results: PHPI trends correspond to the trend of absolute inequality in all five countries, although they exhibit less volatility over time. Relative inequality follows the trend of the PHPI in only two of the five countries (Ethiopia and Zimbabwe), reflecting the methodology utilised for the PHPI. PHPI scores vary based on different inequality aversion weights, highlighting the sensitivity of the index to methodological adjustments.

Conclusions: The PHPI demonstrates notable convergence of trends with conventional methods, thereby substantiating its utility as a comprehensive tool for the simultaneous measurement of health and inequality. As it is able to consider both absolute and relative inequality within its own calculations, the PHPI allows for independent analysis of its two key components. The PHPI facilitates a more nuanced understanding of population health and may be more easily understood by policymakers and other stakeholders. As it does not address the underlying causes of changes in health inequalities, further research is necessary to supplement monitoring activities.

Key messages:

- PHPI is a valuable tool for health and inequality monitoring by integrating both average health and disparity in a single index, facilitating communication of trends over time.
- The dual focus complements conventional methods with its multidimensionality and may enable stakeholders to assess health and inequalities in alignment with broader health policy objectives.

Abstract citation ID: ckae144.2120

Functioning in Older Adults: Prevalence and Implications for Policy and Digital Services

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Background: Actions maintaining and promoting functioning, and proactively preparing for the surge in demand for services in near future, are needed as the population is aging. Policy actions need to base on up-to-date picture of the situation. We examined the prevalence of limitations in different dimensions of functioning in the older population.

Methods: Data consisted of participants aged 75 years or older (n = 9,686) in the nationally representative Healthy Finland Survey in 2022. The questionnaire included questions on various aspects of functioning (physical, cognitive, psychosocial, need and use of help), quality of life, internet use and digital competence. Weighted prevalence of functional limitations by age (75-79, 80-84, 85-89, ≥90 years) was analyzed for men and women using logistic regression, sampling design and non-response acknowledged.

Results: Difficulties in most aspects of functioning increased rapidly with age. In ≥ 90-year-olds, one third experienced major difficulties in activities of daily living (vs. 4% in 75-79-year-olds), and 30% of men and 45% women aged 90 or over experienced major difficulties in getting out of their home (vs. 4% in 75-79-year-olds). The prevalence of loneliness doubled by age, from 9% in the youngest to 21% in oldest age group. The corresponding increase in psychological distress was from 9% to 15%. Need for help increased dramatically with age, but the unmet need among those needing help did not, being around 20% in all age groups. In ≥ 90-year-olds, 83% of men 92% of women reported little or no internet skills (vs. 40% in 75-79-year-olds), and 55% of men and 75% women did not use digital services at all, i.e. neither independently nor with help from others (vs. 25-28% in 75-79-year-olds).

Conclusions: Difficulties in functioning and need of help were common among the oldest age groups which underlines the urgency to ensure sufficient resources for elderly care.

Key messages:

- While developing health and social care services, equal access to services must be ensured even for those not able to use digital services.
- Functioning must be supported not only by measures aimed at the individual, but also by improving the environment so that people with a lower level of functioning can cope with their everyday lives.

Abstract citation ID: ckae144.2121
Prevalence and accumulation of metabolic risk factors of cardiovascular disease in Finland

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Background: Cardiovascular disease (CVD) remains the leading cause of death and disability in the world. We aimed to examine the prevalence of metabolic risk factors of CVD and their accumulation in the Finnish working-age population.

Materials and methods: The data consisted of individuals aged 20 to 69 who participated in the population-based Healthy Finland health examination survey in 2023 (n = 4375; participation rate 56%). We studied the accumulation of four risk factors: hypertension, hypercholesterolemia, diabetes and central obesity. The information was collected using health examination measurements and blood samples. Information on medical conditions and medication use was collected using questionnaires and national register data. All analyses utilized weighting coefficients. Adjusted results (age, sex) were calculated via logistic regression.

Results: The most common CVD risk factor was hypercholesterolemia (male= 69%, female= 63%), followed by central obesity (m = 41%, f = 44%), hypertension (m = 44%, f = 34%) and diabetes (m = 11%, f = 6%). At least three risk factors were present in 26% in male and 23% in female participants, while 17% of males and 22% of females had no risk factors. The prevalence and accumulation of metabolic risk factors became more common with age. Of those aged 60-69, more than 10% had all four risk factors and almost half had at least three. Central obesity increased the risk of hypertension (OR 3.11; 95% CI 2.61-3.71), diabetes (OR 3.97; 95% CI 2.86-5.52) and hypercholesterolemia (OR 1.75; 95% CI 1.48-2.07) compared to those without central obesity.

Conclusions: 81% of all participants had at least one metabolic risk factor for CVD and 50% had at least two. High prevalence and accumulation of CVD risk factors remains a major threat to future morbidity, mortality, and increased healthcare costs in the Finnish working-age population. It is particularly important to identify those individuals with several simultaneous risk factors.

Key messages:

- Metabolic risk factors for CVD are common in the Finnish working-age population, with high prevalence especially hypercholesterolemia and central obesity.
- If the increasing prevalence of risk factors is not addressed, morbidity, mortality and health care costs can be expected to increase in the future as the population ages.

Abstract citation ID: ckae144.2122
Exploring non-smokers' attitudes toward e-smoking: results from the Minerva Project Europe

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Background: In the shifting paradigm of tobacco use, the attitudes of non-smokers toward e-cigarettes are crucial for public health planning, as in the literature it has been suggested that non-smokers who use e-cigarettes could be more prone to switch to tobacco. This multi-center study investigates the interplay between traditional smoking and the potential benefits of transitioning to e-smoking, through a comprehensive examination of smoking behaviors, dietary, and lifestyle practices.

Methods: MINERVA (My changINg lifEstyles, our Research, and eVeryone's heAlth) is an ongoing prospective international cohort study aimed at investigating the association between smoking habits and dietary and lifestyle habits among the study participants. The secondary objective pertains to the assessment of subjects' willingness to try e-cigarettes. We implemented an univariable logistic regression analysis on a dataset comprising 2367 nonsmokers to identify factors influencing their willingness to smoke e-cigarettes.

Results: Employment significantly predicted willingness, with employed non-smokers showing a higher likelihood to consider e-smoking (OR 2.5, p = 0.002). Household dynamics, specifically the presence of children, also affected the decision, indicating a protective effect against adopting e-smoking (OR 1.26, p < 0.001). Lifestyle choices, particularly fitness and dietary habits, played a discernible role. Surprisingly, age inversely correlated with the willingness to try e-smoking, as younger non-smokers were more likely to consider it (OR 0.97 per year increase, p < 0.001), suggesting that this openness could increase their risk of future tobacco use, which carries important public health consequences.

Conclusions: The study's outcomes underscore the impact of socio-economic and lifestyle factors on non-smokers' openness to e-cigarettes. These insights are pivotal for devising culturally competent educational campaigns and regulatory policies.

Key messages:

- In the shifting paradigm of tobacco use, the attitudes of non-smokers toward e-cigarettes are crucial for public health planning.
- By thoroughly analyzing smoking habits, diet, and lifestyle choices, the Minerva Project research aims to shed light on the complex dynamics between health behaviors and smoking.

Abstract citation ID: ckae144.2123
Measuring functioning and disability in Korea: comparing general and dedicated surveys using the ICF

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Background: Functioning is the third health indicator besides mortality and morbidity. Although Korea periodically collects functioning information, the functioning indicator has not been generated yet. This study aimed to evaluate how functioning information is currently collected in Korea's health and disability surveys, especially in terms of comparability and comprehensiveness, using the International Classification of Functioning, Disability and Health (ICF) as a reference framework.

Methods: Data sources included three health and disability surveys in Korea (Population and Housing Census, Korean National Health and Nutrition Examination Survey, Survey on the Living condition of Persons with Disabilities) and two international ICF-based surveys (International Spinal Cord Injury Survey, Model Disability Survey). Functioning information was linked by category to the ICF Generic-30 Set utilizing the ICF linking rules.

Results: Three ICF categories (walking, washing oneself, dressing) were covered by all the data sources. Excluding the Census, which inherently differs from the other data sources, all the surveys addressed six ICF categories-b152 emotional functions; b280 sensation of pain; d240 handling stress and other psychological demands; d450 walking; d510 washing oneself; d540 dressing. Despite of the common ICF categories, important differences in the operationalization of questions and response options were found.

Conclusions: The overlap of content of health and disability surveys in Korea enables interoperability with other data sources. Available functioning data can be used for estimating the functioning indicator and metric, as recommended by WHO, which can serve as a valuable epidemiological indicator for complementing mortality and morbidity indicators and for estimating and monitoring rehabilitation or long-term care needs of the Korean population.

Key messages:

- Korea's health and disability surveys periodically collect functioning information at the national level, and the level of overlap across surveys enables interoperability with other data sources.
- This study can contribute to generate a Korean common health metric based on functioning that can serve as a valuable epidemiological indicator by utilizing the international standard ICF.

Abstract citation ID: ckae144.2124
Lifestyle habits and openness to alternative tobacco products: insights from the Minerva Project

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Background: Recent studies have suggested that the use of alternative tobacco products (ATPs) is a significant predictor of cigarette smoking, particularly among young individuals. The present study evaluates the association between dietary patterns, specifically junk food consumption, and the willingness to try ATPs among non-smokers.

Methods: MINERVA (My changINg lifEstyles, our Research, and eVeryone's heAlth) is an ongoing prospective international cohort study primarily focused on investigating the link between smoking habits and the dietary and lifestyle habits of participants. Subjects are given a web-based survey to report socio-demographic characteristics, dietary and lifestyle habits, smoking habits, and attitudes towards ATPs. This analysis concentrates on respondents from Italy who do not smoke traditional tobacco products.

Results: The survey included 7,535 respondents from Italy; of these, 40% (2,992 subjects) were non-smokers. Among the non-smokers, 219 (7%) were identified as fast-food consumers (defined as consuming fast-food at least once a week). Fast-food consumers were significantly more likely to consume junk food as snacks (87% vs. 62%) and were less likely to report daily consumption of fruits and vegetables. Notably, fast-food consumers were 2.5 times more likely to be willing to try ATPs compared to those who do not consume junk food (Odds Ratio [OR] 2.55, 95% Confidence Interval [CI] 1.68-3.88).

Conclusions: Junk food consumption has been identified as being associated with an increased willingness to use ATPs among non-smokers. This finding is significant from a public health standpoint, highlighting the crucial influence of unhealthy eating habits in fostering an interest in ATP use.

Key messages:

- The Minerva study evaluates the association between dietary patterns, specifically junk food consumption, and the willingness to try alternative tobacco products among non-smokers.
- The study underscores the public health importance of addressing dietary patterns alongside smoking habits.

Abstract citation ID: ckae144.2125
Hand grip strength in older and very old people: Results of the study Gesundheit 65+

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Background: Functional capacity decreases with increasing age. Hand grip strength (HGS) is considered as an objective general measure of health and a parameter of muscle strength, a component of functional capacity and is part of the evaluation of frailty. HGS is important for many everyday functions, such as holding heavy objects or supporting oneself to prevent a fall. Low HGS is associated with a higher mortality risk. In our study we describe HGS in people aged 66 to 101 years in Germany and identify groups with low HGS.

Methods: Gesundheit 65+ is a longitudinal epidemiologic study of the health status of persons 65 years and older in Germany by the Robert Koch Institute. In 2022/23, one year after baseline, isometric HGS was measured during the examination part of the study using a hand-held dynamometer (Smedley, Scandidact, Denmark, 100 kg). Two values were recorded for each hand. Maximum HGS from all attempts was used for analyses. Weighted prevalence estimates and 95% confidence interval (CI) for grip strength are reported by sex, age-group, height, self-rated health, chronic conditions, and difficulties in activities of daily living (ADL).

Results: HGS was measured in 1,457 persons aged 66 to 101 (48% women). Mean maximum HGS was 28.8 kg (CI 28.4-29.3). HGS was significantly related to sex (men: 35.4 kg, CI 34.8-36.0, women 21.8 kg, CI 21.4-22.2) and age (66-79: 31.0 kg, CI 30.1-31.9, 80+: 23.9 kg, CI 23.0-24.7). In both sexes, shorter persons and persons with bad self-rated health, chronic conditions or difficulties in ADL showed lower HGS than their reference group.

Conclusions: HGS was reduced in very old people, people with support needs, and people with poor health or chronic diseases, identifying these people as important risk groups for preventive measures. These should aim to improve not only endurance but also strength in older and very old people. In the long term, this could also maintain independence and reduce serious injuries from falls.

Key messages:

- We found sex and age-related differences in hand grip strength in older people in Germany.
- Based on the results, planning of prevention and intervention could be enhanced.

Abstract citation ID: ckae144.2126
Significant pre-post effects on a patient-reported outcome measure in inpatient rehabilitation

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Background: We conducted a pilot study for the Swiss National Association for Quality Development in Hospitals and Clinics (ANQ) in the inpatient rehabilitation setting. The aim was to assess the suitability of a generic health-related quality of life patient-reported outcome measure (PROM) as an outcome quality indicator for public reporting across all rehabilitation domains on a national level.

Methods: In a multi-stage expert-based selection process, the PROMIS Global Health 10 was selected for piloting. We collected data from 29 rehabilitation clinics from April to December 2023. Mean T-scores and effect sizes were analysed across different rehabilitation domains. Patients' need for assistance in completing the questionnaire was also assessed.

Results: A dataset of 2261 cases yielded a cleaned sample of 2083, with 1217 complete cases. Mean T-scores for physical health (PHS) and mental health (MHS) significantly differed ($p < 0.001$) at admission and discharge across all rehabilitation domains. The largest effects were observed in PHS for pulmonary (38.9(7.3); 46.0(7.6); $dz = 0.95$) and cardiologic rehabilitation (41.7(7.4); 47.9(7.2); $dz = 0.85$), and in MHS for internal medicine (44.1(6.9); 49.1(5.6); $dz = 0.80$) and psychosomatic rehabilitation (36.0(7.2); 45.2(8.2); $dz = 1.19$), while the smallest effects were noted in PHS for paraplegia (36.3(7.2); 39.8(7.2); $dz = 0.50$) and in MHS for the musculoskeletal rehabilitation domain (46.2(7.9); 48.7(7.4); $dz = 0.33$). Of all complete cases, 40.5% needed assistance in filling in the PROM and support needs were distributed unequally across rehabilitation domains, ranging from 10.0% in psychosomatic to 70.3% in geriatric rehabilitation.

Conclusions: The study presents a nuanced understanding of HRQOL across various rehabilitation domains, with notable effects observed across all domains, alongside significant assistance needs.

Key messages:

- PROMIS-GH10 shows significant pre-post effects on physical and mental health in Swiss inpatient rehabilitation, with notable effects observed across all domains.
- Observable barriers in implementation are evident due to substantial assistance requirements.

Abstract citation ID: ckae144.2127
Quality of Life among the Sámi Population

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Introduction: The Sámi, indigenous to Northern Europe, maintain rich traditions like reindeer herding and unique languages. Continuous efforts are made to preserve their cultural identity and practices. Systemic barriers, including cultural marginalization and environmental challenges, exacerbate these inequalities, impacting their ability to preserve traditional lifestyles. It is not known, until now, how this impacts Quality of Life (QoL).

Aims: Describe QoL in the Sámi population in Norway

Methods: In 2019/20, the three northernmost Counties in Norway took part in the Norwegian Counties Public Health Surveys (NCPHS), which also has a comprehensive QoL module (comprises subjective and objective measures, Cantril scale). NCPHS is an internet-based survey. On average 25 % of the adult population was invited to participate in the NCPHS.

Results: Being Sámi was through self-identification, $n = 3312$. Satisfaction with Life was 7,34 versus 7,41 for the general population. For Loneliness, 15,9 % percent of the Sámi were characterized as lonely (score 6-10) versus 13,3 %, and for positive emotions, there was no difference, with a score of 6,69 for both groups. Sex, age and educational gradients are similar to the general population, for all measures. Minor differences were found according to if one lived in a Sámi-majority municipality or not.

Conclusions: Overall, being Sámi is associated with slightly lower QoL on several measures, but effect sizes are general small to insignificant. Due to lack of data on the Southern Sámi population, findings cannot be generalized to all Sámi.

Key messages:

- Overall, being Sámi is associated with slightly lower QoL on several measures, but effect sizes are general small to insignificant.
- Due to lack of data on the Southern Sámi population, findings cannot be generalized to all Sámi.

Abstract citation ID: ckae144.2128
Monthly Tracking of Infant Mortality in Portugal: Post-COVID Trends

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Background: The Infant Mortality Rate (IMR) is a fundamental health indicator that reflects the overall well-being of populations. Recognizing the need for more timely data to inform public health strategies, the authors have presented a novel method for monitoring IMR monthly instead of traditional annual reporting. Our work aims to increase further the robustness of a novel method for monitoring IMR monthly.

Methods: This new approach leverages the Portuguese E-Death Certification System (SICO) and Statistics Portugal (2016-2024) data. It provides the most recent insights into IMR trends in Portugal, highlighting the post-pandemic period. This method allows for the analysis of cumulative deaths under one year of age against live births over the previous 12 months, offering a more responsive metric to guide interventions.

Results: The updated analysis reveals a continued pattern influenced by the dynamic public health landscape of the COVID-19 pandemic, including the phasing out of restrictions and the end of mandatory mask usage. The pandemic has significantly impacted IMR trends, with Portugal experiencing a decline in IMR during the stringent phases, reaching historically low levels. This trend slightly reversed following the lifting of restrictions, underscoring the urgent need for understanding the complex interplay between public health policies and infant mortality. In the post-pandemic period, the IMR increased until October 2023, showing a later (up to February 2024) global decreasing trend within the range of 2.5 and 2.9 deaths per 1000 live births.

Conclusions: Recent updates confirm the effectiveness of real-time IMR monitoring as a vital tool for policymakers and health professionals. Portugal's experience underscores the importance of real-time health indicators in managing public health crises. It stresses the need for further research to understand factors affecting IMR and to continue reducing infant mortality.

Key messages:

- COVID-19 restrictions correlated with a historical low in Portugal's IMR, showcasing the impact of stringent public health measures.
- Post-lockdown, the rise in IMR after the phasing out COVID-19 restrictions and later stabilization underscores the challenges and the necessity for dynamic health policies.

Abstract citation ID: ckae144.2129
Main challenges and measures taken by public health institutions in response to war in Kyiv Region

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Background: The establishment of martial law due to Russia's military aggression against Ukraine led to specific adjustments in the functioning of the Centers for Diseases Control and Prevention (Ð¡DÐ¡). The negative impact of hostilities is determined by the increased morbidity rate of communicable and non-communicable diseases, insufficient supply of safe drinking water and food to damaged sites, inadequate living conditions, etc.

Objectives: The purpose of the work was to create an effective system for responding to biological, chemical and radiation hazards and eliminating the consequences of an emergency situation in the realities of martial law.

Methods: We used the most common methods, namely descriptive, statistical, microbiological and chemical laboratory tests.

Results: The activities of the CDC under martial law include daily monitoring studies of environmental objects. The epidemic situation of acute intestinal infection (AII) and other communicable diseases (CD) is constantly analyzed. The Kyiv Oblast CDC became the basic institution for the implementation of the 'pilot project' in the direction of sanitary and epidemic assessment and monitoring of environmetal objects in 188 de-occupied areas. The main public health risks were identified: providing the population with high-quality drinking water; low immunization rate of the population; sites for the location of internally displaced persons; natural foci of especially dangerous diseases, such as tularemia, leptospirosis, infection fevers, etc. In 2022, the overall level of CD in the Kyiv region decreased by 44.0% from 2021. The most common nosologies were acute respiratory viral infections and influenza (98.9%), AII (42.4%), tuberculosis (15.3%), Lyme disease (15.3%), and viral hepatitis (14.2%).

Conclusions: Based on the research conducted, mechanisms have been developed for responding to hazards of various origins by public health institutions, including risk assessmant and laboratory studies.

Key messages:

- The main focus of the Centers for Diseases Control and Prevention is aimed at effective response to hazards of various origins in order to ensure public health under martial law.
- Risk assessment in de-occupied territories has become an important tool for identifying correct approaches to prevent negative consequences for public health.

Abstract citation ID: ckae144.2130
The importance of healthcare monitoring systems

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Issue: Healthcare evaluation is an important tool of governance in the health sector that reinforces its key components: evidence-based care, effectiveness, programme standards, performance monitoring, quality improvement, risk and incident management and patient-centered care. One of the evaluation systems used by the Veneto Region (north italian region of about 4.8 million inhabitants) consists of the National Outcomes Programme (PNE) developed by the Italian National Agency for Regional Healthcare Services (AGENAS) on behalf of the Health Ministry.

Description: The PNE is an instrument used to measure, analyze, evaluate and monitor clinical and welfare assistance performances of Italian healthcare facilities. The Veneto Region, in particular, utilizes a regional epidemiologic service to periodically monitor 21 performance indicators based on "treemap" methodology. These indicators are used to assess processes, outcomes and volumes. The data used to monitor these practices derive from the hospital discharge documentation (SDO) and tax registry information system. The aim of this monitoring system is to track any critical situation that is not in alignment with national guidelines and to improve the efficacy, efficiency, appropriateness and safety within the healthcare system.

Results: In the Veneto region, over the course of nearly 10 years, this method of management has led to the development of various training courses that guide clinicians to correctly document and code different diagnosis and treatments. The treemap process of analysis has also made possible various clinical audits that have provided significant policy changes regarding risk and overall health management.

Lessons: Having a constant view of healthcare performance has proven to be helpful not only to identify some common gaps in care given from different facilities on a national level, but also guides different regions to develop specific strategies that lead to quality improvement.

Key messages:

- Data on healthcare quality can be used as comparative information and for quality improvement.
- Continuous monitoring of specific performance indicators can help identify difficulties in healthcare facilities and create strategies for long term solutions.

Abstract citation ID: ckae144.2131

Reporting social inequalities in health dashboards: data source mapping of 14 European countries

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Background: Monitoring health inequalities is an essential public health task. This includes reporting social inequalities using data dashboards to inform citizens and policy-makers. To date, there is a dearth of evidence on the extent of health inequality reporting and which equity dimensions are being reported in European countries. The aim of the study is to systematically map data sources and identify the equity dimensions reported in national and subnational data sources in 14 European countries.

Methods: Study design is a cross-sectional data source mapping in 14 European countries (Bulgaria, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Iceland, Malta, Norway, Portugal, Slovenia, Spain). We will conduct a survey among more than 400 collaborators of the EU-funded Joint Action to Prevent NCDs (JAPreventNCD) to identify existing population health dashboards at national and subnational levels. On a second stage, we will carry out a structured content audit to identify inequality dimensions and health indicators in each dashboard. The dashboard content audit will be done in duplicate by native speakers using keyword search and annotated navigation. Inequality dimensions will be categorised using PROGRESS-plus categories. We will pre-register the protocol in OSF prior to data collection and analysis. Data analysis will use a modified version of the template developed by the World Health Organization. Data analyses will be conducted in R. Work is under development but given the resources committed to JAPreventNCD, results will be ready by November 2024.

Key messages:

- Reporting social inequalities using data dashboards to inform citizens and policy-makers is an essential public health task.
- Systematic data source mapping can be a reliable, efficient method to monitor the routine reporting of health inequalities.

Abstract citation ID: ckae144.2132

The impact of the COVID-19 pandemic on physical activity among primary school children in Ireland

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Background: The containment measures implemented during COVID-19 to curb the virus's spread disrupted family life globally and profoundly impacted children's daily behaviours. A decrease in children's physical activity during COVID-19 is one such health behaviour change that was observed in many European countries. This study aimed to understand the pandemic's impact on primary school children's physical activity in Ireland which is important given the epidemic of childhood obesity and chronic diseases in the long term.

Methods: All Childhood Obesity Surveillance Initiative (COSI) participating countries (n = 45) could voluntarily implement the COVID study as part of their COSI Round 6 (R6) data collection or separately. The parents of First and Second-class primary school children (n = 2,784) who consented to participate in COSI-Ireland R6 were invited to complete the family survey which included the standardised COVID study. The COVID module assessed children's lifestyles and health behaviours before and during the pandemic through 12 questions. Consenting parents supplied their email or postal address and completed the survey in hardcopy or electronically using LimeSurvey. Descriptive statistics were then calculated on the cleaned pseudonymised dataset (n = 1,060) using IBM SPSS Statistics 27.

Results: The time spent playing actively outside school hours remained the same for some children on both weekdays and weekends (24.2% and 37.1%, respectively). An increase rather than a decrease in the time spent in active play was also observed among almost twice as many children across Ireland on both weekdays (47.3% and 24.2% respectively), and weekends (40.10% and 21.80% respectively).

Conclusions: The positive findings show that the public health messaging from the Irish Government which emphasized the importance of staying active during COVID-19 may have been effective. Further research to assess children's physical activity during COVID-19 is warranted to inform future pandemics.

Key messages:

- In Ireland, unlike in many European countries, a substantial number of primary school children increased their time spent playing actively during the COVID-19 pandemic.
- A unique trend in Irish children's physical activity levels compared to their European counterparts.

Abstract citation ID: ckae144.2133

Wastewater-Based Epidemiology of Influenza Viruses: a systematic review

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Background: Influenza viruses (IVs) are responsible for annual epidemic outbreaks during the winter months. Beyond conventional surveillance systems, the circulation of these pathogens can be monitored using Wastewater-Based Epidemiology (WBE), an epidemiological tool that describes the health status of an entire community by analyzing the presence of pathogens within wastewater. Systematically reviewing existing experiences in this emerging field is crucial to highlight the best practices to establish a WBE surveillance system providing useful information for public health actions.

Methods: The study protocol for this systematic review has been registered on the PROSPERO website (registration ID: CRD42024532435). Three academic databases (PubMed, Web of Science and Scopus) were accessed to collect studies examining the presence of IVs in wastewater. Studies included were those reporting quantitative measures of viral concentration or detailing molecular/phylogenetic characterization of IVs in wastewater.

Results: Databases were searched on July 8th, 2024. After de-duplication and screening of the 400 remaining records, 42 were included in the review. IVs detection in wastewater was reported in all papers except from one, although with high variability in terms of positivity titers and concentration levels. More than half of the collected papers (52.4%) evaluated association between environmental viral concentration and clinical data, generally showing concordance between the two aspects. Moreover, 28.6% of papers described subtyping of IVs in wastewater through different methods (specific PCR assays being the most used).
Conclusions: WBE is a promising approach for surveilling viral circulation, and IVs represent a high value target for implementing this innovative system. Systematically reviewing previous experiences can be useful to obtain information for the establishment of a novel environmental surveillance system of Influenza Viruses

Key messages:

- Nucleic acids belonging to Influenza Virus are detectable in wastewater, even though we report high levels of variability in sampling techniques, laboratory methods and data management systems.
- Association between environmental data and number of clinical cases is reported to be generally strong in collected papers; subtyping of IVs present in wastewater is also feasible.

Abstract citation ID: ckae144.2134
Vaccination Coverage among Institutionalized Elderly Population: A Case Study in Cascais, Portugal

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Vaccination stands as a cornerstone of public health, significantly reducing the morbidity and mortality associated with infectious diseases. However, the aging demographic, with declining homeostasis and immunosenescence, presents new challenges. Those residing in nursing homes face heightened risks of infectious diseases due to proximity and interactions with multiple staff members. In Portugal, elderly vaccination against tetanus/diphtheria (Td) is integrated into the National Vaccination Program, with additional official recommendations for pneumococcal (Pn), seasonal influenza, and COVID-19 vaccinations. Specific vaccination campaigns in nursing homes for influenza and COVID-19 are coordinated by Public Health Units. This study aimed to assess the vaccination coverage for these vaccines among the institutionalized elderly in Cascais municipality and evaluate the implementation of official recommendations. A survey of nursing homes in Cascais was conducted, and the vaccination status of residents was assessed through electronic records in February 2024. Statistical analysis was performed. Vaccination status for each vaccine was considered valid if individuals had received at least one dose of Pn13 or Pn23, a Td vaccine dose within the last 10 years, and vaccinations against influenza and COVID-19 within the last 6 months. Among 2189 institutionalized elderly in Cascais, 87% were vaccinated against both influenza and COVID-19, 39% against Td, and 17% against pneumococcal disease. While influenza and COVID-19 vaccination coverage is high, the tetanus/diphtheria vaccination rate is low, and pneumococcal vaccination is very low, despite official recommendations. This population remains at increased risk for preventable diseases. Monitoring vaccination status and implementing targeted vaccination campaigns are crucial for increasing coverage, realizing health and economic benefits and preventing severe diseases.

Key messages:

- Vaccination is essential for safeguarding the health of institutionalized elderly populations. There is a need for targeted interventions to address preventable diseases and protect these individuals.
- Monitoring vaccination status and implementing targeted campaigns are critical for increasing coverage and realizing health and economic benefits among elderly populations in nursing homes.

Abstract citation ID: ckae144.2135
Data dashboards in health inequalities monitoring - A qualitative study of subnational policy-makers

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Background: Despite sustained improvements in life expectancy and health during past decades, substantial health inequalities persist. Subnational jurisdictions are increasingly recognised for their pivotal role in addressing health inequalities. While data dashboards offer a promising solution for monitoring health inequalities, their utilisation in supporting local policies to reduce inequalities remains largely unexplored. This study examines the utilisation of health equity data and data dashboards (i.e. Sotkanet, Sotekuva, Tietotarjotin and Hyvinvointivajemittaristo) for health policy-making in Finnish wellbeing services counties, identifies barriers in using existing dashboards and determines the data needs for improved health inequalities monitoring.
Methods: A qualitative case study design with reflexive thematic analysis will be used. The study will be pre-registered in the OSF framework. Semi-structured interviews will be conducted with policy-makers involved in health policy development. Data analysis will involve open and axial coding to identify themes in participants' responses. Themes will be organised into a coding framework, and the analysis will continue iteratively until data saturation is achieved. The study will include a pre-approved interview guide and peer debriefing sessions. Findings will be reported according to the Consolidated criteria for reporting qualitative research (COREQ) guidelines, with thematic diagrams illustrating key themes and sub-themes. The study is expected to reveal varying levels of utilisation of data and data dashboards among local policymakers, along with specific challenges and gaps in their current use. Policymakers may express needs for additional data or new features in dashboards to better monitor health inequalities. The study will conclude with recommendations for improvements in current data dashboards. Work is under development but by funders requirement the results will be ready by November 2024.

Key messages:

- Data dashboards offer a promising solution for monitoring health inequalities, but their utilisation in supporting local policies to reduce inequalities remains largely unexplored.
- This study examines the utilisation of data dashboards for health policy-making subnationally, identifies barriers for use and determines the data needs for improved health inequalities monitoring.

Abstract citation ID: ckae144.2136
Viral pathogen surveillance in wastewater using metagenomic approaches: obstacles and prospects

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Background: Wastewater monitoring offers an important tool for pathogen detection and tracking within large populations at a minimized cost and labor. Untargeted metagenomic approaches for the detection and sequencing of viruses still face limitations. In this study we tested the application of the sequence-independent single-primer amplification (SISPA) protocol in conjunction with nanopore sequencing to the study of viromes in wastewater samples.
Methods: Influent wastewater was collected from four Wastewater Treatment Plants located in the Lisbon region and Alentejo, Portugal in 2019 and 2023. Samples were processed with different methods including filtration, flocculation, Nanotraps or absorvent tampons. We applied the SISPA protocol, that includes a random amplification step, followed by nanopore sequencing on flow cells R9.4.1. We used the CZ ID (https://czid.org) pipeline for metagenomic analysis and taxonomic reporting.
Results: A large heterogeneity was found between samples in sequencing output (ranging from 17 thousand to 12 million reads) and the proportion of sequence reads classified as viral (ranging from 0.06% to 4% per sample). Viral taxa with higher number of reads were Picornavirales, dsDNA and ssDNA phages, Mimiviridae and Circoviridae. Known viral pathogens included Rotavirus A, Orthopoxvirus, Human betaherpesvirus and Avian orthoavulavirus.
Conclusions: Metagenomic studies of environmental samples generally exhibit a low proportion of viral reads, even after viral enrichment. A substantial sequencing effort is thus required to achieve a comprehensive virome characterization. As alternative, a more targeted approach, e.g. to target families of viruses of interest, may be considered. Funding: Fundação para a Ciência e Tecnologia (FCT): GHTM - UID/04413/2020; LA-REAL - LA/P/0117/2020; https://doi.org/10.54499/CEECINST/00102/2018/CP1567/CT0040 to SGS. Research council of the Vrije Universiteit Brussel (OZR-VUB): OZR3863BOF to PL.

Key messages:

- Enrichment for viruses in metagenomic approaches remain challenging in very complex samples as are influent wastewaters.
- Virome characterization still necessitates high sequencing efforts but may be used as a complementary environmental survey tool integrated with more targeted approaches.

Abstract citation ID: ckae144.2137
How Avoidable Mortality is influenced by health expenditure: an Italian 14-year panel data analysis

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Background: Avoidable Mortality is a widely used public health indicator to assess the quality of healthcare systems. The aim of this study was to investigate how the allocation of private and public health expenditure (PHE) could influence avoidable mortality (AM), treatable mortality (TM) and preventable mortality (PM) of Italian citizens.
Methods: A pooled cross-sectional time series study was conducted. Italian healthcare data from 2009 to 2019 was extracted from 'Health for All', a WHO-related database released periodically by the Italian National Institute of Statistics. PHE was divided by providers area (directly provided services (DPS), general and specialist medicine, pharmaceutical, rehabilitation). Data about private health expenditure, gross domestic product per capita (GDPPC), level of education, medical drug consumption per capita (MDCPC), general practitioners per capita (GPPC), physical exercise, tobacco use, and obesity were collected. AM was divided into TM and PM using OECD/Eurostat lists of causes of death (2022). A fixed-effects regression was used to assess the effects of economic and social variables on AM, TM and PM.
Results: Higher spending on DPS (-0.027), higher MDCPC (-0.859) and higher GDPPC (-0.001) were associated with lower rates of AM. Higher sport activity (c -0.673) was associated with lower rates of TM. Higher levels of private health expenditure (0.022) and higher number of GPPC (0.023) were associated with higher rates of PM; these counterintuitive results could be caused by the inappropriateness of medical treatment directly requested by patients. Other variables were not significantly associated with AM, TM or PM.
Conclusions: The results highlight the importance of medical DPS by NHS (emergency departments, hospital care, specialized care, primary care, etc.). Analyzing health data divided by areas of NHS we could help policy makers to allocate human and economic resources more efficiently.

Key messages:

- The allocation of public health resources could influence the health status of the polulazion.
- Italian National Health System could reduce avoidable mortality through the use of directly provided services.

Abstract citation ID: ckae144.2138
Comprehensive sexuality education: indicators to evaluate interventions in Italian schools

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Background: Comprehensive sexuality education (CSE) is globally acknowledged as the most effective approach to promoting sexual health and preventing Sexually Transmitted Infections (STIs). However, in Italy, CSE is not consistently part of the school curriculum. The EduForIST project, funded by the Ministry of Health, introduced and tested a unique CSE model in a sample of secondary schools across six Italian regions, aiming to develop an evaluation model for potential nationwide implementation.
Methods: The EduForIST partnership, comprising experts from various institutions, devised a framework for monitoring and evaluating CSE interventions. Through monthly focus group discussions from April 2023 to February 2024, they established indicators for short-, medium-, and long-term evaluation of clinical and behavioral outcomes, as well as process indicators to assess intervention implementation.
Results: A total of 35 indicators were developed, including clinical and behavioral ones for medium and long-term outcomes, short-term behavioral outcomes, and process indicators. Data for clinical and behavioral indicators can be obtained from administrative sources like the Ministry of Health and Regional Health Authorities. The National Institute of Health provides data from relevant surveillance programs. However, many process indicators require specific data collection and calculations. Challenges such as under-reporting and underestimation persist, especially in regions with limited CSE implementation.
Conclusions: Creating an effective monitoring system for CSE interventions necessitates integrating diverse data sources, including health records, administrative data, and behavioral assessments.

The proposed model's effectiveness will be fully assessed by comparing pre- and post-intervention after widespread implementation in secondary schools. Meanwhile, the selected indicators serve as a foundation for evaluating baseline status of STIs and behaviors in Italy.

Key messages:

- The EduForIST project establishes a robust framework for evaluating Comprehensive Sexuality Education (CSE) interventions in secondary schools, addressing gaps in nationwide implementation.
- By devising indicators encompassing several measures, the project lays the groundwork for a comprehensive monitoring system, vital for assessing the effectiveness of CSE interventions in Italy.

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A methodology to map chains of general practices in the Netherlands

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Background: Commercial entities are increasingly interested in acquiring Dutch general practices (GPs). They see profitable opportunities in upscaling by forming chains. Chain organizations integrate business processes of GPs within one organizational unit. The governance structure of these chains can be complex, leading to opacity and difficulties to see conflicts of interest and market power. To investigate how this development may have an impact on quality and accessibility of care, it is first needed to establish the ways in which these chains are formed. By mapping the chain structure in a data-driven way, impact monitoring becomes possible. For the Netherlands we investigated how chain structures of GPs can be empirically identified.

Methods: Background data of approximately 4,800 Dutch GPs from the Nivel Healthcare Professional Registries was linked with data from the Chamber of Commerce's Trade Register. This enabled the determination of the legal form, business location, ownership, and director identification for all GPs. By this data-driven manner, the variation in organizational structures of all Dutch GPs was mapped and analyzed.

Results: Four different chain variants of Dutch GP chains were identified based on three types of relations between the chain organization and their GPs: ownership, location and the composition of the board of directors. Based on ownership, two 'top-down' chain variants were identified. Two 'bottom-up' chain variants were found based on location and board composition: (1) a chain organization acquires a seat on the board of the GP, and (2) the GP and the chain organization share the same business address. Combining these variants provides a new typology of GP chains in the Netherlands.

Conclusions: Our methodology enables to empirically map chain formation in primary care. By developing a new typology in a systematic way, a foundation is created to monitor organizational developments and their impact on quality and accessibility of care.

Key messages:

- A typology of Dutch GP chains was developed based on three relations: the ownership, composition of the board and the establishment location of the chain organization and its practices.
- Our methodology was put into practice to map different chain structures of GPs in the Netherlands, but it is not limited to primary care and can also be applied in other sectors and countries.

Abstract citation ID: ckae144.2140
Radiation exposure of patients undergoing multiple-slice CT scans in Romania

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Ionizing radiation is largely used in medicine due to its role in the diagnosis and treatment of patients. In the past 50 years computed tomography (CT) has become indispensable for medical practice because it offers sub-millimeter cross-sectional imaging of any region of the body. New CT scanners use thinner slices, providing more accurate results, but also an increased radiation exposure with possible long-term harmful effects for the patients. The parameter used as an indicator of radiation dose in CT is the dose-length product (DLP). The study included 4507 patients who were CT scanned using a 16, 32, 64 or 128-slice CT machine. DLP was measured for head, sinuses, thorax, abdomen, pelvis, abdomen+pelvis, and trunk scans - regions for which the health authorities have established national diagnostic reference levels (DRL - the expected radiation dose received by a patient in CT). One-way ANOVA was used to analyse data considering the use of contrast agents, the gender, age, and weight of patients. Average DLP values were higher (up to 80%) than national DRL for all regions in 64 and 128-slice scans. The highest DLP values were registered in contrast CT for all scanners ($p < 0.01$); the maximum average (a threefold increase compared to DRL) was measured in the 32-slice sinuses contrast CT. Average DLP correlated with patients' gender and weight ($p < 0.01$), but the influence was lower compared to the use of contrast agents. In conclusion, CT scans acquired using thinner slices lead to more accurate results and high-quality images, but the study suggests an increased radiation exposure. CT has an uncontestable contribution to a precise and rapid diagnosis, but more attention must be given to the stochastic effects risks associated with the radiation dose received during a CT scan. Are all scans necessary? Do all patients really need to receive high doses? The role of the practitioner is decisive, and the justifiable process is "a must" in all radiodiagnosis practices.

Key messages:

- CT doses must be kept "as low as reasonably achievable" while maintaining diagnostic image quality.
- Justification, dose limitation, and optimisation are fundamental principles of radioprotection.

Abstract citation ID: ckae144.2141
Monitoring the Public Health and Safety Impact of the Groningen Gas-Extraction Crisis

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Background: Gas extraction in the Dutch province of Groningen began in 1963 and was initially seen as an economic boon for the nation. Yet, it turned into a significant burden for the region, leading to earthquakes, damage to houses and property, complicated compensation processes, recovery, and reinforcement programs, as well as a lack of recognition. In 2016, the research group Gronings

Perspectief (GP) was established with the objective of independently monitoring the public health and safety impact of the gas-extraction crisis from the residents' perspective.

Methods: Monitoring activities take place in dialogue with sounding boards comprising residents, professionals, scientists, and local and national governments. GP employs a longitudinal mixed-methods approach, combining qualitative and quantitative research methods. Representative panel surveys are conducted yearly among residents in the provinces of Groningen (twice) and Drenthe (once). Additionally, 20 in-depth interviews are carried out each year, alongside a survey among households in the reinforcement program. GP analyses the periodic health monitors conducted by municipal health authorities. All reports are publicly accessible.

Results: Since 2016, monitoring consistently points to a profound and enduring effect of housing damage on health and well-being, subjective safety, risk perceptions, trust in governments and agencies among residents. The impact of the procedural burden imposed by governments and institutions, is as significant as the effects of earthquakes and housing damage.

Conclusions: GP's findings were included in a parliamentary inquiry, which concluded in 2023 that the interests of residents were persistently neglected in favour of economic gain. New risk reduction and reconciliation programs are introduced. Despite the recent decision to end the gas extraction, continuation of GP is needed to monitor further developments.

Key messages:

- GP's stakeholder-driven monitoring approach made the impact of the gas-extraction crisis visible.
- Enduring public health and safety risks, beyond the gas extraction, require continuing monitoring.

Abstract citation ID: ckae144.2142
Did the pandemic change behaviours in Italy? An analysis on the main NCDs behavioural risk factors

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Background: The indirect effects of the COVID-19 pandemic on healthy living behaviours are multiple and complex to assess. The aim of the study is to assess the impact of the COVID-19 pandemic in Italy on: smoking, alcohol, fruit and vegetable consumption, and sedentary lifestyle, through the Italian Behavioral Risk Factor Surveillance System (PASSI) data.

Methods: PASSI 2008-2022 data refer to a sample of 497,223 18-69-year-olds residing in Italy. For each behaviour, from the monthly prevalence data, the 2008-2022 time series was estimated with LOWESS regression and an interrupted time series (ITS) analysis was conducted, using the generalized least squares (gls) model, taking into account autocorrelation (ARMA matrix) and considering March 2020 (start of WHO-declared pandemic) as the month of 'interruption' of the series, to show the difference between what was observed and what was expected under the assumption that the pandemic had not happened ('counterfactual' scenario).

Results: In December 2022 the share of people who consume at least 5 servings of fruits and vegetables per day is lower than the counterfactual scenario (6.7% vs 9.1%), while the share of higher-risk alcohol users is significantly higher (19.5% vs 16.9%). In contrast, the share of sedentary people (according to WHO guidelines) is significantly lower than the counterfactual (27.9% vs 31.8%). The pandemic does not seem to have had a significant impact on smoking.

Conclusions: These results show a worsening impact of the pandemic on alcohol consumption and fruit and vegetable consumption. Sedentariness shows better data at the end of 2022 and smoking remains mostly unchanged. It will be necessary to continue monitoring the impact of the pandemic over longer periods to confirm the findings.

Key messages:

- Understanding changes in lifestyle indicators is critical to design ad hoc interventions to reduce the burden of noncommunicable diseases, and especially during health emergencies such as pandemics.
- Through this work it is possible to clearly observe how the pandemic has impacted lifestyle habits.

Abstract citation ID: ckae144.2143
Adverse Drug Reactions to *β*-Lactam Antibiotics: A Portuguese Pharmacovigilance Database Analysis

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Background: The β-lactam antibiotics are one of the most relevant drug classes globally. They accounted for the largest share of systemic antibiotics consumption in Portugal across both community and hospital settings. Due to their significance, continuous monitoring of adverse drug reactions (ADR) associated with β-lactams is fundamental.

Aim: To analyse and characterise cases related to β-lactam antibiotics received by the Portuguese National Pharmacovigilance System.

Methods: Retrospective analysis of cases containing at least one medicinal product classified as suspect under the Anatomical Therapeutic Chemical (ATC) code J01C or J01D, reported to the Portuguese Pharmacovigilance System between 2014 and 2023. Characterisation of cases considered patient demographics, reported suspected medicines, MedDRA Preferred Term (PT), seriousness and type of reporter.

Results: A total of 3557 cases were identified (54.0% females; median age = 42.0 years; interquartile range = 52.2), with 95.9% originating from spontaneous reporting and 93.5% being reported by healthcare professionals. The most frequently reported medicines were those belonging to ATC J01CR. Around 70% of cases were classified as serious, with 38.7% being related to situations of disability or other criteria of greater seriousness. Most frequently reported PTs were related to skin disorders. Anaphylactic reaction was the most reported Designated Medical Event term. The PTs "Drug ineffective" and "Off label use" were reported in 5.2% and 2.4% of the cases, respectively.

Conclusions: Despite the majority of cases are serious, most of the ADR identified are related to already known hypersensitivity reactions. To improve the knowledge regarding these medicines and to generate evidence to address emerging public health issues it is of paramount importance to strength the Portuguese Pharmacovigilance System. This can be achieved through enhancing spontaneous reporting and implementing active pharmacovigilance programs.

Key messages:

- Monitoring the efficacy and safety profile of β-lactams in a real-world context is crucial to mitigate the impact in public health and associated economic burden.

- Enhancing the surveillance systems improves data collection and evidence generation, supporting tailoring treatment approaches and implementation of public health policies.

Abstract citation ID: ckae144.2144
Dispensing of antibiotics in community pharmacies before, during, and after the COVID-19 pandemic

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Background: Antibiotic resistance threatens our capability to successfully treat bacteriological infections, becoming a major threat to public health. Therefore, measures must be taken to minimize de incidence of multi-drug resistant bacterial infections. Antimicrobial Stewardship is a systemic healthcare approach devised to foster, enhance, oversee, and assess the judicious application of antimicrobials, aiming to safeguard their efficacy in the future, whilst advocating and safeguarding public health. In the initial phase, a correct diagnosis of antimicrobial utilization is pivotal for the proper implementation of an Antimicrobial Stewardship Program.

Methods: A cross-sectional study encompassing the Alentejo region, Portugal, with a specific focus on central Alentejo, was conducted to analyze the dispensing of antimicrobials in community pharmacies, alongside the examination of the prescribing locations, before, during, and after the COVID-19 pandemic, from 2019 to 2023.

Results: The number of antibiotic packages dispensed decreased, as expected, during the COVID-19 pandemic, but returned to pre-pandemic levels after its conclusion. In several prescribing locations, the proportion of cephalosporins and quinolones exceeded the maximum expected value.

Conclusions: The implementation of an appropriate Antimicrobial Stewardship Program in this region is necessary to ensure the correct prescription of antimicrobials, decreasing the risk that antibiotic resistance pose to public health. Emphasis on the application of the Clinical Practice Guidelines issued by the Portuguese Directorate-General of Health regarding the proper approach to bacterial infections should be intensified so that all prescribing locations exhibit proportions of cephalosporins and quinolones below the maximum expected value.

Key messages:

- Antimicrobial resistance poses a threat to public health.
- Stewardship is crucial for appropriately safeguarding public health by reducing antimicrobial resistance emergence.

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Regional inequalities in waiting times: analysis of orthopedic appointments in Slovenia

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Background: Long waiting times for healthcare services are a priority issue in the Slovenian healthcare system. Over the past decade the system for monitoring waiting times has evolved and is currently linked to the eReferral system, which allows detailed monitoring of data in particular related to secondary care services, such as outpatient specialist visits. Our aim was to explore the differences in waiting times between Slovenian regions in the case of first orthopedic outpatient visits in order to identify potential causes or contributing factors.

Methods: The analysis was based on the data from the waiting list database on 1 January 2024. The database includes information on region of residence of the patient and the region where the provider is located. Data were available on the number of persons on the waiting list and on the average expected waiting time for them. Waiting times relate to each of three urgency levels, which are indicated on the referral (very fast, fast and ordinary).

Results: Average expected waiting times for first orthopedic outpatient visits differed considerably among residents of different regions, ranging from 159 day to 265 days (60% more). The regional differences were even larger if only “very fast” and “ordinary” referrals were considered. The share of appointments in each urgency referral level also varied considerably, for example the share of patients with a “very fast” referral ranged between 15,7% and 37,6%, depending on the patient region of residence. The Pearson correlation coefficient between the region of residence of patients and the region where the provider is located was 0,78.

Conclusions: Waiting times and referral patterns for first orthopedic outpatient visits for patients from different regions vary considerably. Despite a free choice of provider and public data on expected waiting times, the differences correlate closely with the geographic distribution of providers.

Key messages:

- Waiting times for outpatient visits in orthopedics differ by Slovenian region, despite free choice of provider.
- The assessment of inequalities is made more difficult by varying share of different urgency levels of referrals.

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Foregone care in the Italian elderly population: a new challenge for the National Health System

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Background: The avoidance of medical care among the elderly in Italy has been exacerbated during the COVID-19 pandemic and today, according to data from the Passi d’Argento surveillance, it involves over 3 million elders. The study analyzes the medical care avoidance among the elderly in Italy, the motivations behind it and the changes over time.

Methods: Passi d’Argento surveillance system, coordinated by the Italian National Institute of Health and conducted by Local Health Units, continuously collects information on health and lifestyles, as well as care and assistance needs, of the population aged over 65 residing in Italy, through interviews with representative samples by gender and age.

Results: Between 2021 and 2022, 1 in 4 individuals over the age of 65 (24%) reported avoiding, in the 12 months before the interview, a medical visit or diagnostic test they needed. The phenomenon is higher among those reporting significant economic difficulties (37%). Among those who have waived, 31% said they did so for fear of Sarsv-Cov-2 infection; 22% due to suspension of service and/or closure of the practice because of the restrictions imposed by the COVID-19 pandemic; 36% declared that the avoidance reason was due to long waiting lists; 7% due to difficulty reaching the facility. With the end of the pandemic, this phenomenon has decreased overall (from 34% in 2020 to 23% in 2022), however, there is an increase of individuals who report renouncing due to long waiting lists or difficulties accessing services.

Conclusions: Data clearly highlights the difficulties of National Health System in meeting the health needs of elderly citizens, which persist even after the pandemic. It is important to preserve the right and the access to prevention and care for the elderly, for which timeliness is crucial. In this perspective, these data can provide important guidance for action at both national and regional levels.

Key messages:

- Having national data on foregone care allows to see the burden of the phenomenon.
- Even after the pandemic, the phenomenon of medical care avoidance among the elderly continues to be observed.

Abstract citation ID: ckae144.2147
Health behaviour and well-being in the Faroe Islands prior to and during the first COVID-19 lockdown

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Detrimental effects on health and well-being were reported during the COVID-19-induced lockdown periods in several countries, but these associations have not been studied in small-scale island societies. This study aimed to examine the lockdown period's impact on health behaviour, social media use and measures of well-being in the Faroe Islands. We used cross-sectional data from two extensive population-based surveys of public health conducted in November 2019, the pre-COVID survey ($n = 2906$), and 4-6 weeks into the first national lockdown, the lockdown survey ($n = 1204$). A larger proportion of participants in the lockdown vs. pre-COVID survey people reported high physical activity levels (42.1 vs 30.7% $p < 0.001$), while nutritional habits were rated worse and social media usage increased. Furthermore, the proportion displaying excellent/very good self-rated health was larger in the lockdown vs. pre-COVID survey (68.1 vs 62.0% $p < 0.001$), and the same pattern was observed for reporting good quality of life (85.7 vs 82.7% $p < 0.05$). These associations remained statistically significant in a logistic regression model after adjusting for characteristics for which varying impact of the pandemic has been shown. Indicators of health behaviour showed that larger proportions of participants kept active during the lockdown vs pre-COVID survey, and these differences were statistically significant for physical, mental, and spiritual activities ($p < 0.001$). On the other hand, similar stress levels in the pre-COVID/lockdown periods were observed, but stratified analysis showed that participants with a high-stress level displayed better self-rated health in the lockdown period compared to the pre-COVID period ($p = 0.001$).

Conclusions: Findings indicate that self-reported health and quality of life improved during the early phase of the COVID lockdown, and individuals reported higher activity levels associated with good mental health during the COVID-19-induced lockdown period.

Key messages:

- Physical activity improved, but dietary habits worsened during initial COVID-19 lockdown in the Faroe Islands.
- Measures of wellbeing and quality of life improved during initial COVID-19 lockdown in the Faroe Islands, while there was no overall difference regarding stress levels.

Abstract citation ID: ckae144.2148
The normalised mortality, a new measure to ensure valid conclusions from cardiovascular mortality

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Background: The quality and efficacy of health systems is assessed by comparing age-standardised mortality (ASM) from cardiovascular diseases (CVD), as they are regarded avoidable by health care. Differences in CVD mortality in West-Europe are surprising and hard to explain: in 2018, ASM for CVD in Germany was much higher (women: 102, men: 155/100,000) than in the Netherlands (65 and 97). Yet, these differences do not root in health system quality, but in different shares of CVD deaths among all deaths (DE: 39%, NL: 25%), which strongly effect CVD mortality. We developed a mortality measure less sensible to differences in shares of CVD deaths to increase plausibility of comparisons and validity of conclusions.

Methods: WHO data on sex-specific all and CVD deaths, ASM for CVD and all-causes for 2000-2018 for Western-European countries was used to calculate the share of CVD deaths among all deaths. ASM for CVD was divided by the share of CVD deaths resulting in a mortality measure normalized for 1% of CVD deaths. ASM and normalized mortality for CVD were used in comparative analyses. Strength of linear association between total and (normalized) ASM for CVD was estimated (adj. R^2).

Results: Normalised CVD mortality ranked from 2.0 (CHE in women) to 4.9 (SVN in men) in 2018. While ASM for CVD was lowest in Danish women and Dutch men, Switzerland leads both rankings using the normalised CVD mortality. While ASM for CVD was much higher in Germany than in the Netherlands, the countries had the same normalized CVD mortality (2.6). ASM for CVD was moderately associated with all-cause mortality only in men (adj. R^2 0.33; in women: -0.06). Using the normalized CVD mortality yielded an adj R^2 of 0.66 in women and 0.94 in men. The normalised CVD mortality ensures reliable comparisons of CVD mortality eliminating the effect of different shares of CVD deaths. It yields plausible results and enables valid conclusions about health system quality and better decisions for public health.

Key messages:

- Age-standardised CVD mortality rates are effected by different shares of CVD deaths in countries and hinder valid conclusions on health systems efficacy and quality of health systems.
- The normalised mortality rate eliminates the effect of different shares of CVD deaths in countries and allows to validly compare CVD mortality.

Abstract citation ID: ckae144.2149
Preventing dementia is possible. The fraction of cases attributable to modifiable factors in Italy

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Background: Worldwide, approximately 50 million people live with dementia. The Lancet Commission, in its latest report in 2020, identifies 12 'modifiable' risk factors associated with dementia, estimating that they account for about 40% of overall dementia cases. The study aimed to estimate the population attributable fraction (PAF) of dementia cases in Italy due to these factors.

Methods: Relative risks (RR) of each factor and formulas for estimating PAF are derived from the Lancet Commission's report. Prevalence data were obtained from the Italian surveillance systems PASSI and PASSI d'Argento (PdA), which provide information on 11 of the 12 identified risk factors. The total sample 2017-19 included 86,494 individuals aged 18-64 and 48,516 individuals aged over 65. The Communality, used for 'weighted' estimates of PAFs, was calculated via principal components analysis of the inter-risk-factor tetrachoric correlation matrix, using data derived from the overall PASSI and PdA sample.

Results: In Italy, it is estimated that 39.5% of dementia cases are attributable to 11 of the 12 modifiable risk factors, equivalent to 445,150 out of 1,126,961 estimated cases as of January 1, 2023. Among the risk factors with the greatest impact are hypertension before the age of 65 (weighted PAF=6.3%); sedentariness after the age of 65 (weighted PAF=5.9%); low education in youth (weighted PAF = 5%); depression and social isolation after the age of 65 (weighted PAF=4.5% and 4.4%), as well as diabetes (weighted PAF=3.9%) and smoking (weighted PAF=2.4%).

Conclusions: Although it is necessary to to gather further evidence on the role and mechanisms of action of each factor, the importance of prevention and promotion of health and social well-being in the field of dementia is now evident.

Key messages:

- Having an overall national sample of adults and elderly people is a unique tool that allows an estimation of dementia cases attributable to modifiable risk factors.
- Dementia prevention may also be possible by acting on modifiable risk factors.

Abstract citation ID: ckae144.2150
Assessing progress towards viral hepatitis B and C elimination in prisons in the European region

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Background: In 2016 the WHO launched the global health sector strategy for the elimination of viral hepatitis, alongside a dedicated monitoring&evaluation (M&E) framework to assess progress at national, regional and global levels. Despite being a priority setting for viral hepatitis elimination in Europe, prisons are rarely integrated into national monitoring efforts. Besides, prisons are particular contexts with a high viral hepatitis prevalence, where it is possible to utilize adequate micro-elimination strategies.

Objectives: We aimed to assess available metrics of viral hepatitis burden and coverage of prevention and control interventions in prison settings in Europe using routine sources of data.

Methods: We adapted the WHO M&E framework for viral hepatitis elimination to the prison context. The resulting M&E framework has 49 indicators of which 10 are defined as core. Data were sourced from available European prison surveillance systems at European level, namely: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and WHO Health in Prisons European Database (HIPED).

Results: In total 38 countries in the European region provided data to either data sources for 2020. For WHO-HIPED, among core indicators, 3 out of 10 could be calculated for HCV, and covered prevalence, HCV treatment availability and treatment outcome. Concerning HBV, 3 core indicators out of 10 could be calculated and covered prevalence, screening availability and treatment coverage in prison. With EMCDDA surveillance system we could calculate 4 HCV core indicators and 6 HBV core indicators.

Lessons: Availability of health data from prison settings is scarce, hampering the current capacity to monitor the progress in the viral hepatitis elimination within prisons contexts strategies and its relative contribution to global health goals achievement. A coordinated and standardised M&E framework tailored to this specific setting is needed to foster data collection and systematic monitoring.

Key messages:

- Micro-elimination strategies in prison context contribute to the global health goals achievement.
- A coordinated and standardized M&V framework, adapted to the prison context, is needed to foster data collection and monitoring of the viral hepatitis elimination strategy.

Abstract citation ID: ckae144.2151
Analysis of the mpox outbreak in Europe in 2022: vaccination rollout in the most affected countries

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Background: The mpox virus spreads through contact with infected material and causes flu-like symptoms and skin lesions. Common in Central and West Africa, a global rise in mpox cases in 2022 was observed, affecting mainly men who have sex with men.

Methods: The study analysed vaccination policies in the most affected WHO-EURO countries during the mpox outbreak, including the Netherlands, France, UK, Spain, Germany, Belgium, Portugal, and Switzerland. Epidemiological data from May to October 2022 (first wave) were compared. Additionally, the role of EU health institutions in assisting member states in controlling virus spread across the region was examined.

Results: By the end of May 2022, three countries (The Netherlands, France, and UK) initiated post-exposure vaccination shortly after the first case identification. Portugal, one of the most affected countries, implemented pre-exposure prophylaxis for high-risk groups by September, followed by Switzerland in November. Vaccination access for non-exposed priority groups varied, with France not requiring a medical prescription. EU cooperation in health was pivotal during the outbreak, with vaccines distributed through the EU4Health program budget via HERA to ensure preparedness. However, detailed information remains limited.

Conclusions: Countries' responses to the mpox virus outbreak varied significantly, with discrepancies not always aligning with epidemiological data. These differences could stem from various factors, such as behavioural patterns, prior immunisation rates, and neighbouring countries' policies. However, the unequal access to vaccines across the region underscores existing health disparities, particularly affecting stigmatised populations. Data on immunisation records were notably scarce in most countries, hindering thorough analysis of policy implementation and effectiveness. Additionally, further exploration is warranted into the role of LGBT associations and evidence of stigma surrounding the outbreak.

Key messages:

- The mpox 2022 outbreak in Europe provides an important picture of cross-border health policies and public health responses for future emergences in a European cooperative environment.

- Most national authorities provided limited information during the mpox 2022 outbreak; data on immunisation records and vaccine access is pivotal to assess countries' health policies.

Abstract citation ID: ckae144.2152
HiCorr: an influenza surveillance model using over-the-counter sales from community pharmacies

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Background: In large-scale community transmission, such as seasonal influenza, monitoring geographic trends and estimating the transmission intensity are critical to support public health decision-making. Previous studies have successfully used sales data from over-the-counter (OTC) products in community pharmacies to detect and monitor different epidemiological outbreaks, developing surveillance systems that are able to anticipate the load on primary care services and hospitals by up to 3 weeks.

Methods: The subset of OTC products sold in Portuguese community pharmacies was selected by correlating sales data to primary care attendance in previous flu seasons. This data pertained to daily coded episodes of influenza-like-illness (International Classification of Primary Care, 2nd Edition, code R80) in the Portuguese health cluster Oeste Sul. By fitting a moving epidemic method to historical sales data and then applying it to daily collected sales data, the developed index was used to anticipate the relative load to the primary care system as well as the start and the peak of epidemic activity for the current flu season. Results were compared to the public health data available on respiratory infections in Portugal.

Results: The model pinpointed the onset of the 2023-2024 flu epidemic in week 47 and its peak in week 52. The index curve showed a high correlation with the data published by the Portuguese national health service, with no time lag. However, the availability of consolidated public data was delayed, on average, by approximately two weeks.

Discussion and conclusions: Data from community pharmacies significantly enhance the early detection of seasonal flu trends, while reflecting population distribution. This underscores their invaluable contribution to public health assessments and the potential for improving the timeliness and accuracy of seasonal flu surveillance.

Key messages:

- Community pharmacy data significantly enhance the early detection of seasonal flu trends.
- Real world sales data maybe useful to support epidemic surveillance in public health.

Abstract citation ID: ckae144.2153
Examining Cycle Threshold values in Repeat SARS-CoV-2 Cases: A Retrospective Analysis in Ireland

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Background: Effective public health management during the COVID-19 pandemic requires accurate differentiation between re-infections and residual viral RNA detections in repeat positive cases. This study investigates cycle threshold (CT) trends in repeat SARS-CoV-2 cases to discern between persistent viral remnants and active infections. Collaboration between contact tracing and laboratories is essential for shaping robust public health strategies.

Methods: A retrospective analysis was conducted on 427 individuals with repeat positive PCR tests. Data was collected at a contact tracing centre from March to August 2021. Key variables including age, gender, and biomedical markers (test intervals, CT values) were examined. Regression and correlation techniques assessed CT trends and their implications.

Results: Younger individuals (<60 years) occasionally exhibited significantly lower CT values in subsequent tests, suggesting potential re-infections, while older adults generally displayed higher CT values indicative of residual RNA. These age-specific CT trends were statistically significant and instrumental in refining testing protocols and isolation guidelines. Further analysis is expected to strengthen these findings

Conclusions: Collaborative approaches between contact tracing and laboratories are vital in shaping robust public health strategies for distinguishing between types of repeat infections. Revision of health policies is imperative to prevent unnecessary isolation and optimise healthcare workforce allocation during ongoing transmission periods.

Key messages:

- Decisive decision-making skills are crucial in managing repeat SARS-CoV-2 infections.
- Revised health policies align testing and isolation practices with empirical CT data, enhancing public health efficacy.

Abstract citation ID: ckae144.2154
Rapid increase of multi-drug resistant Pseudomonas aeruginosa in Greece - WHONET-Greece (2020-2023)

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Background: Multidrug-resistant (MDR) Pseudomonas aeruginosa has been documented as a significant threat associated with adverse patient outcomes. We aimed to describe the rapid increase in the prevalence of an MDR P.aeruginosa phenotype at the national level, as detected through the Greek Electronic System for the Surveillance of Antimicrobial Resistance (WHONET-Greece).

Methods: Routine susceptibility data of 22,236 P.aeruginosa isolates of hospitalized patients in forty-five hospitals, isolated over the past four years (2020-2023) were analyzed using 'Resistance profiles' analysis of WHONET software(ver.2023), considering five antimicrobial groups/agents.

Results: We confirmed the rapid increase in the prevalence of a carbapenem-resistant P.aeruginosa (CRPA) phenotype resistant to all five antimicrobial groups/agents tested (carbapenems, piperacillin-tazobactam, cephalosporins, fluoroquinolones and aminoglycosides). The prevalence increased by 63.8% in 2023 (from 15.2% to 24.9%, 1.64-fold increase), whereas in the last 24 months of the study period a 2.13-fold increase was observed (from 11.7% to 24.9%). In parallel, the prevalence of all other CRPA profiles decreased in 2023 from 22.5% to 17%. We also examined the prevalence of this MDR phenotype in the different NUTS-1 regions of the country, which revealed that the rapid increase is mainly observed in Attika (EL3, 19/45 hospitals) and Central Greece (EL6, 8/45 hospitals) where prevalence reached 25.4% and 26.2% in the second half of 2023 respectively. Northern Greece (EL5, 15/45 hospitals) showed a steady increase over the four years (12% to 19.3%), while in the Aegean Islands/Crete region (EL4, 3/45 hospitals) the prevalence levels were stable.

Conclusions: There is an emerging multi-drug CRPA phenotype in Greece. Only with systematic, nationwide surveillance could we identify and verify such threats. The findings of this study should be used for targeted interventions and further analysis through molecular techniques.

Key messages:

- The early detection of such emerging multi-drug CRPA phenotype in Greece allows for for targeted interventions and further analysis through molecular techniques.
- Systematic surveillance of antimicrobial resistance based on routine susceptibility data is a great way to identify and verify emerging public health threats.

DV. Poster display: Public health policy and politics

Abstract citation ID: ckae144.2155
Passing the hot potato: a multinational study on public trust in the health policy process

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Background: Health data-sharing initiatives are central to European and national e-health strategies, aiming to improve healthcare quality, inform policymaking, and drive research. Public trust is crucial for their success, influencing public participation and policymakers' legitimacy. This study investigates the role of public trust in the health policy process at both the European level and in Italy, France, and Switzerland to determine 1) if a common conceptual understanding of public trust across different countries and policy stages exists, and 2) if policymakers explicitly discuss and implement trust-building measures in their legislative work

Methods: A total of 60 interviews were conducted with 16 European, 15 Italian, 14 French, and 15 Swiss policymakers from the World Health Organization, the Council, Parliament, and Commission at the European level, along with representatives from the Ministry of Health, Parliament, regional councils, local health authorities, frontline staff, and relevant agencies at the national levels

Results: Preliminary results reveal that a common definition of public trust in health data sharing is missing. Associations to public trust are observed at the European level with citizens' reassurance about their sensitive data being shared, and in Switzerland with data security. In France, public trust is connected to public engagement, while no distinct patterns were identified in Italy. Findings also reveal a consensus among interviewees on the central role public trust plays in health data-sharing initiatives; yet public trust is perceived as a vague concept, often addressed implicitly without a clear strategy

Conclusions: The study reveals widespread ambiguity among policymakers regarding the definition of public trust and its translation into policy. Practical guidance is crucial to effectively integrate elements of public trust into policymaking, thereby actively reinforcing trust in health data sharing through legislative efforts

Key messages:

- While policymakers recognize the importance of public trust for data-driven health initiatives, they lack a common conceptual understanding on what trust is and how to build it.
- Guidance is needed to help policymakers actively contributing building trust in health data sharing through their legislative work.

Abstract citation ID: ckae144.2156
What characterizes the eldercare debut? A registry-based study of pre-entry health care use

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Introduction: Timely identification of needs due to functional loss in old age is important. Policy guidelines requires local collaborative care action. Eldercare debut circumstances are poorly investigated from a collaborative perspective. This study explored the socio-demographic characteristics, functional status and patterns of health care use leading up to the first application for eldercare, and how older people's intensity of primary care use was associated with their intensity of granted eldercare at debut.

Methods: Data on socio-demographics, functional status, and informal care in people $\geq$65 years (July '21 to June '22; $n = 3{,}649$) were combined with data on inpatient and outpatient care six months preceding debut in Stockholm, Sweden. Descriptive and regression statistics were used.

Results: Every second person debuted following a hospital stay and one in four had extensive functional limitations. The majority made one or two visits in primary care, but 13% had a high intensity of use and 20% made no visits at all. More than half received informal care weekly or daily. Non-use and high use of primary care were both significantly associated with increased probability of receiving high intensity of eldercare.

Conclusions and implications: The intensity of primary care use can provide an indication of people's intensity of eldercare at debut, which is important for resource allocation. Deeper collaboration between eldercare and primary care actors can facilitate early identification of people in need of support, thereby alleviating individual suffering, enabling secondary and tertiary prevention, and optimizing the management of welfare resources.

Key messages:

- The intensity of primary care use can provide an indication of people's intensity of eldercare at debut.
- Deeper collaboration between eldercare and primary care actors can facilitate early identification of older people with social support needs.

Abstract citation ID: ckae144.2157
Assessing contextual factors influencing scale-up: a interactive approach involving stakeholders

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Issue: Pilot interventions are not always put into practice at scale. When they are, effectiveness is often highly reduced in the field due to contextual factors. To effectively implement a scale-up, stakeholders' involvement is crucial. Curema is an international research evaluating an intervention aiming to reduce malaria transmission by distributing RDTs and treatments in mobile hard-to-reach populations. This intervention might be scaled-up in Brazil, Suriname, and French Guiana as a tool of national malaria programs for specific areas and populations.

Description of the problem: An interactive pre-planning assessment was conducted involving key stakeholders -implementers, decision-makers, and researchers - in working sessions, semi-structured interviews, and formal meetings. Mendelow's Power/Interest Matrix was used to map stakeholders and a SWOT analysis was conducted using ExpandNet/WHO Framework to evaluate contextual factors and identify levers and obstacles influencing the scale-up.

Results: A total of 23 participants were involved. Health authorities had high power and generally high interest, while implementers and recipients had lower power and different interest levels. National engagement for WHO E2025 or E2030 enhanced scalability and represented a main opportunity in the three countries. Nevertheless, several regulatory and administrative aspects were identified as potential obstacles to be addressed to make scale-up realistic. Funding was also a major concern for sustainability. The need for regional cooperation was emphasized to achieve malaria elimination.

Lessons: Despite financial and regulatory challenges, a window of opportunity is open to scale-up Curema. Identifying and involving stakeholders in a pre-planning assessment and advocating for foster regional cooperation are crucial steps to support the scale-up. Stakeholder analysis should be refined during the scaling-up to capture further changes in factors that might influence the process.

Key messages:

- Engagements with WHO represent windows of opportunity to enhance Curema scale-up.
- Stakeholder involvement and regional cooperation are crucial for scaling up Curema in Brazil, French Guiana and Suriname.

Abstract citation ID: ckae144.2158
Reception of health data using the Australian Burden of Disease study as an example

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Background: Health data, especially on Burden of Disease (BoD), are vital for evidence-based health promotion and effective dissemination is crucial due to resource intensiveness. Germany's national BoD study is currently transitioning to permanence. Analysing the Australian Institute of Health and Welfare's (AIHW) well-established collaboration with stakeholders and their reception of health data at national and regional level offers insights for improved knowledge translation.

Methods: To follow the path of stakeholder engagement, this 3-month project involved scientific exchanges with the AIHW and Department of Health, Western Australia. It compiled communication strategy examples and documents stating examples of BoD data use. A quantitative online survey accompanied by a series of 18 qualitative 45-minute interviews was conducted. The survey implemented via Swift Digital has been running for 20+ days. Interview partners originated from the fields of health research, politics, planning and advocacy for patients or population groups. Results were analysed, illustrated digitally as a booklet and refined in a participatory workshop.

Results: Communication strategies such as embargoed press and stakeholder releases as well as regular online formats were identified. The survey and interviews displayed the required technical and content-detail level from key facts to raw data and visualisation needs. Noteworthy are the demand to link data to economic aspects like disease expenditure, trends and future scenarios. It elucidated how diverse target groups utilize data to place disease significance and preventive public health measures, aiding dissemination. Alongside, it shows examples of knowledge translation by emphasizing impact over indicators when targeting communities.

Conclusions: Prioritizing target group identification and employing tailored communication strategies regarding data format and detail level are essential when utilizing new data.

Key messages:

- Analyzing a well-established collaboration with stakeholders offers insights for improved knowledge translation and reveals leveraging engagement strategies for others.
- Understanding stakeholder needs is essential for promoting broader health data use in policy and practice, fostering evidence-based decision-making, and enhancing public health outcomes.

Abstract citation ID: ckae144.2159
Emergency department frequent users in the paediatric population: a retrospective analysis in Rome

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Background: Recent studies have reported the increasing utilisation of the Emergency Departments (EDs) for non-urgent attendances by people aged <18 years. The aim of this study is to describe the characteristic of the paediatric frequent user (FU) population, highlighting the differences between FUs and non-FUs, and to identify factors linked to appropriate ED attendance, comparing the level of variability attributed to the geographical and family physician components.

Methods: A retrospective cohort study was carried out of the ED attendances in 2022 in the 8 EDs of the Local Health Authority Roma 1 geographical area, in Rome. The cohort was enrolled from the regional Healthcare Emergency Information System. Records included information on number of attendance, age and gender, usage of emergency medical service (EMS), triage code, appropriateness of attendance. Multivariable nested logistic regression was performed to identify the characteristics of FU and non-FU attendances and the predictors for appropriateness of attendances.

Results: In 2022, the total number of children with at least 1 ED attendance is 24.824 and a total of 35.691 attendances were recorded. The regression analysis highlights that the appropriateness of attendances is associated to the female gender (OR male: 0.84), age <1 year (OR: 2.06), the usage of EMS (OR: 2.00), high triage code and being a FU (OR FU: 1.53). The family physician group have a greater influence of District group but lower influence of single patient characteristics group to determine the appropriateness of paediatric ED attendances (MOR District: 1.73; MOR PCP: 1.84; MOR single patient characteristics: 2.75).

Conclusions: Frequent use of the ED is partially associated with an inappropriate use of EDs, mostly due to the specific patients' characteristics. It is therefore necessary to adopt strategies to improve the appropriate use of health service resources in order to provide quality health solutions to real health needs.

Key messages:

- This is the first study that defines an ED paediatric FU profile in Italy.
- It compares the level of variability attributed to the geographical component and family physician components.

Abstract citation ID: ckae144.2160
Boosting influenza vaccination rates through policy gamification: the 'Let's Control Flu' project

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Background: Influenza remains a public health challenge globally, leading to substantial morbidity and mortality, particularly among vulnerable groups. Despite the benefits of vaccination, achieving the desired vaccination coverage rates (VCR) proves challenging across Europe. The 'Let's Control Flu' (LCF) tool emerges as a new contribution, merging gamification with epidemiological data and public health policies to help increase influenza VCR.

Methods: The LCF tool, developed from an extensive literature review and validated by a National Advisory Board, initially showcased its capabilities in Sweden. Offering an interactive simulation, it allows stakeholders to explore the outcomes of implementing 13 targeted public health policies (PHP) on influenza VCR and health outcomes such as infection rates, hospitalizations, and mortality. This approach simplifies epidemiological complexities, paving the way for informed decision-making.

Results: Following its success in Sweden, the LCF tool was extended to Germany and Czechia, underlining the value of gamified tools in public health decision-making. The application across these new countries not only resulted in paths to improve VCR but also provided insights into the tool's scalability and adaptability different landscapes.

Conclusions: The LCF project underscores the efficacy of integrating gamification into health policy decision-making, offering a replicable model for enhancing influenza vaccination uptake across Europe. With the tool now successfully applied in multiple countries, its potential for broader European and global application is evident. This initiative aligns with WHO's objectives, spotlighting gamification as a relevant component in improving vaccination strategies and readiness for influenza and other preventable diseases, thereby reinforcing the importance of innovative approaches in public health policy development.

Key messages:

- The LCF tool integrates gamification with public health strategies to help effectively raise influenza vaccination coverage.
- By merging gamification and epidemiological insights, the LCF tool also serves as a scalable model for Europe, supporting WHO's goals to improve vaccine strategies and preparedness.

Abstract citation ID: ckae144.2161
What's pension got to do with it? Mortality inequality at older ages

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Background: The potential role of social protection systems and welfare states for population health and mortality has attracted increased interest in recent decades but mostly focused on overall characteristics or clusters of countries. Moreover, often neglecting older people even though the great majority of all deaths in high-income countries occur at later ages. We focus on the key social protection scheme for old adults: the generosity of the level of pensions. We compare pensions based on previous work history to basic minimum pensions. Our study is novel both by linking pension system to remaining life expectancy at age 65(LE65+), but also by studying the association to variation in LE65+, since that gives a measure of inequality. We do so across countries and over time.

Methods and Materials: Our sources of data are from the Human Mortality Database and the Social Policy Indicator Database. Data for OECD countries are matched over a long period of time and analysed by pooled time-series regression analyses with fixed effects.

Results: Although the results indicate that the generosity of pensions based on both pervious work history and basic minimum income our results primarily show the importance of basic minimum income. Here the effect sizes are larger and especially for women than for men (0.149*** vs. 0,.0715***). Concerning the variation in LE (65+) we find that more generous basic pensions are associated with reduced variation for women -4.64e-05**.

Conclusions: We provide new insights in how pension policies potentially influence mortality among older persons especially by extending our analyses also to inequality in mortality. Our results points to the importance of basic pensions. The gendered division of labour is a plausible explanation for the findings and to have an adequate pension for all should be of primary concern for public health.

Key messages:

- Adequate basic pension for all of importance for remaining life expectancy among older people.
- Adequate basic pension for all of importance for reducing mortality inequality among women.

Abstract citation ID: ckae144.2162
Setting targets for antibiotic use in general practice in Europe: a scoping review

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Background: National Action Plans (NAPs) aim to address antimicrobial resistance (AMR) understanding and awareness but struggle to translate targets into clinically relevant guidance for general practice. This scoping review aims to identify and map antibiotic use targets in European general practice and explore if and how these targets are linked to NAPs.

Methods: A systematic search strategy was carried out in MEDLINE (OVID), EMBASE and SCOPUS, with additional manual searches. Two research questions were addressed: 'What are existing targets for antibiotic use in general practice in the 31 European countries?' and 'How are these targets linked to the NAPs on AMR?'. The results are presented narratively.

Results: 77 reports were included, of which 33 focused on national targets and general practice or linking national targets to local areas. Reports describe local strategies or initiatives to achieve targets, such as feedback to prescribers, systems with benchmarks (at local, regional, and national levels) and financial incentives. However, these reports provide aggregated targets for general practice, such as a percentage reduction of antibiotics prescribed. These targets are set in general, for a specific type of antibiotic, for an amount per number of patients, in defined daily doses (DDD) or in items. None of the reports translate national targets into clinically relevant or practical targets for general practitioners (GPs).

Conclusions: Most European countries have a NAP with national targets. The type of targets and their implementation at the national and local level vary between countries. Translating national targets into daily clinical practice is challenging and often lacks the involvement and input of prescribers (GPs).

Key messages:

- Translating targets into daily clinical practice is challenging and often lacks the involvement and input of prescribers (GPs).
- Local strategies, feedback to prescribers, benchmark systems (local, regional, national), and financial incentives drive successful target achievement.

Abstract citation ID: ckae144.2163
Mapping the Public Health and Health Promotion Capacity in Oman

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Background: An essential condition to enabling people to increase control over their health is to have sufficient capacity for public health (PH) and health promotion (HP). Despite the recognition of its importance, a comprehensive view of the PH and HP capacity in the sultanate of Oman is not yet available. This study provides a mapping of the country's PH and HP capacity at national, governorate and district levels.

Methods: An online quantitative survey was performed amongst 70 health policy maker and experts in PH and HP using a questionnaire based on the PH capacity framework of Aluttis et al., yielding data on the country specific context with relevance for PH and 6 PH capacity domains, each divided in subdomains: leadership and governance; organizational structures, workforce, financial resources, partnerships, and knowledge development. Internal consistencies of the scales measuring the capacity subdomains ranged from .75 to .99.

Results: The survey revealed relatively low scores, representing partial development of capacities, for most of the public health capacity domains. The highest levels of capacity were observed for knowledge development (health information and monitoring systems, reporting systems and knowledge infrastructure), organizational structures (institutional capacity, program delivery structures, PH within health services, and response emergencies) and partnerships (formal consortia, informal partnerships and multisectoral coordination). In contrast, leadership and governance, workforce development, and financial resources score lower.

Conclusions: Mapping the strengths and weaknesses of PH and HP capacity in Oman allows to make recommendations for improving population health. Whereas all domains of PH and HP capacity are partially developed, there is a need to further improve capacity in all domains.

Key messages:

- PH and HP capacities are partially developed in Oman.
- Mapping the PH and HP capacity allows to identify strengths and weaknesses and make recommendations for improving public health.

Abstract citation ID: ckae144.2164
Study on access to social protection policies by homeless people during the COVID-19 pandemic

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The study analyzed the access of homeless people (HP) to health and social protection policies, including emergency measures, during the COVID-19 pandemic in Belo Horizonte (BH), capital of the state of Minas Gerais, Brazil. Its main objective was to provide data on the profile of HP in the municipality, in addition to evaluating existing public policies focused on HP, based on the time frame of the health emergency. Study with mixed methods design with triangulation of quantitative and qualitative data. It used official databases in parallel with document analysis, interviews and focus groups. As a result, the cartography showed that in the first months of the pandemic the municipality had difficulty reorganizing the health system, which underwent constant protocol updates, consolidating, however, over the months. Important emergency interventions in the municipality of BH involved activities that facilitated HP's access to the provision of services, including intersectorality between health services, social assistance and the third sector. The temporary offer of various intersectoral services, simultaneously with the offer of daytime shelters by organized civil society, was considered a key factor for the expansion and intensification of care networks for HP during the emergency phase. Itinerant services were among those with the greatest positive evidence of service to HP, with emphasis on the 'Consultório na Rua'. The study concluded that understanding the profile of homeless people in BH and the intersectoral variables that impact HP contributes to better directing investments in interventions for these individuals and increasing the effectiveness of health and social protection systems, in line with with the work carried out by the third sector.

Key messages:

- Understanding the inter-sector variables that impact Homeless People contributes to better targeting of investments in interventions in protection social.
- Knowing the profile of the homeless population makes it possible to organize more effective health care and social assistance.

Abstract citation ID: ckae144.2165
Agenda 2030 for sustainable development in Portuguese Speaking Countries, indicators inequalities

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Background: Achieving the SDG Sustainable Development goals represents a major global challenge. The Community of Portuguese Speaking Countries (CPLP) is made up of countries: Angola, Cape Verde, Guinea-Bissau, Equatorial Guinea, Mozambique, São Tomé and Príncipe, Brazil, Portugal, and East Timor. Studies on SDG indicators are little studied among these countries. The study analyzes SDG health indicators in the Community of Portuguese Speaking Countries (CPLP) and their projections for 2030, and investigates the correlation between the countries' level of development and the performance of these indicators.

Methods: Ecological epidemiological study. Estimates from the Global Burden of Disease (GBD) study between 1990 and 2021 were analyzed, referring to fifteen indicators: universal health coverage, sanitation, smoking, maternal and child health, vaccination coverage and communicable diseases. The GBD study generated projections by calculating the annual change since 1990 for each country and year and then calculating the weighted annualized rate of change. The correlation between the Sociodemographic Index (SDI) and the SDG indicators was investigated using the Spearman test, at a significance level of 5%.

Results: The best performances of the analyzed indicators were seen for Portugal, followed by Brazil, Cape Verde and São Tomé and Príncipe. In other countries, high rates of infectious diseases, maternal and childhood mortality, malnutrition, low vaccination coverage and sanitation were observed. There was a negative correlation between the SDI and the indicators of childhood mortality rate ($R=-0.82$; $p<0.05$), malnutrition ($R=-0.7$; $p<0.05$), incidence of tuberculosis ($R=-0.73$; $p<0.05$) and positive between SDI and sewage coverage ($R=-0.83$; $p<0.05$).

Conclusions: The CPLP presents internal differences regarding the health indicators analyzed, making it essential to advance cooperation between countries to achieve the SDG targets in 2030.

Key messages:

- There are great inequalities between SDG indicators in Portuguese-speaking countries.
- It is important to advance technical cooperation between countries to formulate solutions and leave no one behind.

Abstract citation ID: ckae144.2166
Maximising the potential of National Cancer Mission Hub-like structures: A SWOT analysis approach

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Cancer is a significant and urgent concern in public health, particularly in the context of an aging population like in Europe. It is estimated that new cancer cases will increase by 21% by 2040 in Europe. With the ambition of improving the lives of 3 million people by 2030, the European Commission launched 2 major initiatives: Europe's Beating Cancer Plan (EBCP) and the Mission on Cancer (MoC). The EBCP is a policy-driven initiative aimed at supporting Member States in addressing the whole cancer continuum. It is supported by the MoC, a research driven initiative. Member States are implementing the EBCP and MoC in a way that fits their national contexts. This can take different forms, such as 'cancer hub,' 'mirror group,' or other similar structures. The role of these entities can vary, ranging from purely coordinating activities to involving more technical work. We performed a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis with different national mission-hub-like (NCMH-like) structures to explore their strategic positioning. We collected results from 6 countries (Belgium, Italy, the Netherlands, Portugal, Poland, and Sweden) as part of the EU project ECHoS on setting NCMHs. Participants perceived that formal government endorsement, existing stakeholder mapping, and good stakeholder engagement as strengths for the structure. Whilst, they identified overlap with other ongoing initiatives and low stakeholder engagement as weaknesses that need to be addressed, the future of existing structures could be threatened by financial and human resources as well changing political landscape. National, regional alignment and the leverage of EU funding were recurrent opportunities to build on. Ultimately, NCMH-like structures can be leveraged to achieve national and European alignment on cancer initiatives, if they succeed in building a sustainable financial and governance structure.

Key messages:

- National Cancer Mission Hub-like structures can build on existing initiatives to support the implementation of EU cancer initiatives if they achieve sustainable financial and governance structures.
- SWOT framework is a good tool for a comprehensive overview of the strategic positioning of National Cancer Mission Hub-like structures in different European countries.

Abstract citation ID: ckae144.2167
Exploring Burden of Disease Metrics in EU legislation: A Systematic Analysis

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Background: The burden of disease (BoD) methodology is a valuable tool for evidence-based policymaking. However, there is currently no systematic analysis available regarding its use in the European Union (EU) legislation framework. This study aims to describe the implementation of BoD methodology in EU legislation.

Methods: A search was conducted on EUR-Lex, the official and most comprehensive platform to access EU legal documents. The main inclusion criteria in the analyses were date of publication (between 2004 and 2023, accounting for EU-25) and inclusion of BoD metrics (years of life lost - YLL, years lived with disability - YLD or disability-adjusted life years - DALY). Descriptive and network analysis were conducted to analyse the legislation content.

Results: Out of 2592 documents, 191 met the set criteria. Ten were legally binding, and 69% were published after 2018. The European Commission (n = 152) was the most regular issuing institution. BoD was mainly used as an argument (n = 93) and for impact assessment (n = 50). The metrics were commonly presented in the main text (n = 122) and in the annex (n = 48). EuroVoc domains like environment and social questions prevailed. The most frequent EuroVoc terms were climate change policy (n = 45), EU environmental policy (n = 32) and pollution control measures (n = 32).

Discussion: Despite the growing recognition of BoD metrics in supporting policymaking, only 191 documents published over the past 20 years within the EU legislation make reference to this methodology. Greater efforts in knowledge dissemination and directing research towards specific policy uptake may increase the application of BoD studies in EU policies. By advocating for increased awareness, promoting collaboration between researchers and policymakers, and targeting research efforts towards specific policy needs, a more comprehensive integration of BoD methodologies into EU legislation can be achieved, contributing for evidence-informed policies.

Key messages:

- There were only 191 documents of the EU legislative documents published in the past 20 years mention burden of disease metrics, mainly addressing environmental and social issues.
- There is a need to increase EU policy uptake from BoD studies, by conducting policy-oriented research, and building capacity among researchers and policymakers on BoD methodology.

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A comparative analysis of national dementia plans: preventive strategies in five European countries

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Background: About 8.5% of people aged +65 live with dementia in Europe. Preventive measures can avert up to 40% of cases. The aim of the study is to analyse National Dementia Plans (NDP) in Europe, to elicit how much dementia prevention is considered a priority and whether policies are evidence-based.

Methods: A qualitative comparative analysis was performed between NDPs of countries with the best healthy life expectancy in the elderly in Europe. The NDPs of France, Ireland, Italy, Spain, and Sweden were included. The consensus on actions and elements of prevention policies was evaluated, according to the WHO recommendations and to Cheung's framework designed for evaluating chronic diseases policies.

Results: All the NDPs prioritised early diagnosis, public awareness, and community engagement for dementia risk reduction. They fostered the development of information system for data collection and established committees for progress monitoring. However, not all NDPs defined timelines for policy implementation and most of them expired years ago. NDPs included prevention research agenda, but their preventive actions did not address alcohol consumption, traumatic brain injury, and air pollution, representing 3 well-known risk factors attributable for the 15% of preventable cases. Neither integration of dementia with other chronic disease preventive strategies was present and a clear allocation of funds for NDPs always missed.

Conclusions: NDPs partially address risk factors of preventable cases. All countries need to update their NDPs, integrating new scientific evidence and allocating clear financial funds. This can potentially prevent millions of new cases, decreasing the burden of disease and improving the sustainability of health systems.

Key messages:

- NDPs do not target adequately dementia in Europe.
- New evidence-based preventive policies, including most recent identified risk factors, would have a clear impact on burden of disease and health systems' sustainability.

Abstract citation ID: ckae144.2169
Exploring UK adult and policy stakeholder perspectives on obesity prevention policy and inequalities

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In England, 14 obesity strategies have been published, including 689 proposed policies, while rates of obesity persist, and inequalities worsen. This study explores adults' attitudes in relation to food-related obesity policy and how socioeconomic inequalities in obesity are considered throughout the policy process through the perspective of policy stakeholders (PSH). 31 semi-structured interviews with UK-based adults (GPP) (18+) and 14 interviews with PSH categorised as government officials, academics, and advocacy group representatives were conducted and analysed using Braun and Clarke's thematic analysis. Both PSH and GPP attributed obesity causation primarily to the food environment rather than to individual behaviour. The PSH identified the food industry's role in shaping the environment. Level of deprivation was believed to exacerbate the barriers to healthy weight in both samples. All participants agreed that, in the UK, there was an unequal opportunity to attain a healthy diet. A disconnect was found between the GPP perspectives towards the barriers to healthy weight and their attitudes towards policy action. The GPP described mistrust in the government's motives and willingness, fuelling the perspective that policy lacked impact and was disconnected from their lived experiences, particularly among participants of lower socioeconomic status and higher weight classifications. The PSH raised concerns regarding barriers to policy implementation, including inconsistent government commitment, competing priorities, and resistance to state intervention. PSH suggested that it was unfeasible to prioritise inequalities while population rates remain high, and the failure of implement proposed policies continue. This study shows the necessity of incorporating a health equity lens, breaking down policy silos, and amplifying community voices in the policy process to challenge assumptions regarding lived experiences and ensure healthier equitable policy outcomes.

Key messages:

- The study shows the importance of integrating a health equity lens, breaking policy silos, and amplifying community voices to challenge assumptions and achieve more equitable policy outcomes.
- Obesity policy requires greater consideration to inequalities to strengthen policy impact as demonstrated by all participants recalling the unequal opportunity to sustain a healthy weight in the UK.

Abstract citation ID: ckae144.2170
Proficiency in Personalized Medicine and Health Data Sharing in the EU

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Personalized medicine, leveraging genetic, environmental, and lifestyle data, has already transformed healthcare by tailoring prevention, diagnosis, and treatment to individual patients. The successful development and implementation of personalized approaches rely on the public's proficiency and awareness of personalized medicine, enabling access to innovative techniques and fostering a willingness to share health-related data. We distributed a survey to 6,581 respondents from 8 EU countries: France, Germany, the Netherlands, Italy, Spain, Poland, Hungary, and Romania. 52.5% of respondents were female ($n = 3{,}458$), with a mean age of 48.5 years (range 18-89 years, median $= 49$ years, $SD = 15.96$), and 37.91% of the participants reported achieving tertiary education. Our survey investigates the general public's knowledge of personalized medicine, support for genetic testing, and willingness to share health data among EU citizens while assessing their perception and acceptance of these medical paradigms. Knowledge levels vary among different EU countries. Only 12.11% of respondents had a high knowledge of the topics presented in this survey. Support for implementing genetic testing in healthcare was high, with 81.52% supporting the implementation of genetic testing in their healthcare systems, and nuanced differences in acceptance were observed based on testing purposes. 52.35% reported willingness to share health data. Both support for implementing genetic testing and the willingness to share health data correlated positively with knowledge and education levels. Geographical differences within the EU highlighted variations in attitudes toward personalized medicine and data sharing, with respondents from Southern Europe displaying higher odds than their peers in Central and Eastern Europe. The results emphasize the need for targeted communication and education strategies to enhance public understanding and trust in personalized medicine and health data sharing.

Key messages:

- High support for genetic testing across the EU highlights the need for enhanced public education on personalized medicine to boost understanding and data sharing willingness.
- Geographical differences in attitudes toward personalized medicine in the EU suggest targeted strategies to build trust and knowledge, particularly in Central Europe.

Abstract citation ID: ckae144.2171
Outcomes of integrated knowledge translation: A comparative, multi-country case study

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Background: Integrated knowledge translation (IKT) seeks to establish continuous relationships between researchers and knowledge users, in particular decision-makers, to enhance evidence-informed decision-making in public health and healthcare. IKT is, however, difficult to evaluate and outcome evaluations remain scarce. The German-African Collaboration for Evidence-based Healthcare and Public Health in Africa (CEBHA+) undertook research on IKT and non-communicable diseases in Ethiopia, Malawi, Rwanda, South Africa, and Uganda. Over six years, we implemented an IKT approach and evaluated it according to a pre-defined programme theory.

Methods: We conducted qualitative interviews and surveys with CEBHA+ researchers and their decision-making partners at two stages (3/2020-2/2021; 9/2022-5/2023) and collected IKT-related documents (see protocol: https://rdcu.be/dyfBP). Transcripts and documents were analysed using qualitative content analysis and surveys were analysed descriptively, with subsequent integration, cross-case analysis, and revision of the programme theory.

Results: We collected 92 IKT-related documents; and 55 researchers and decision-makers participated in surveys, focus groups or interviews. Proximal outcomes were collaborative research; capacity-building related to research skills and evidence use; and relationship-building, establishing trust and partnerships. Intermediate outcomes were changes in attitudes and knowledge; decision-makers became attuned to research and researchers increased their understanding of the decision-making context, and developed a vision for research impact. Distal outcomes were the production of applicable research and the consideration of evidence by decision-makers. High opportunity costs associated with IKT implementation constituted unintended effects.

Conclusions: Our study presents rich, theory-informed insights into IKT outcomes, based in particular on the experience of researchers implementing the CEBHA+ IKT approach.

Key messages:

- A multi-country research collaboration offered an opportunity to examine IKT implementation and investigate proximal, intermediate, and distal IKT outcomes based on a pre-defined programme theory.
- Beyond our initial conceptualisation, the IKT approach was linked to researchers developing a vision for 'research impact' and gaining a better understanding of the decision-making context.

Abstract citation ID: ckae144.2172
Mapping the Policy Alternatives for Rare Cancer

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Issue: This policy research addresses the issue of rare cancers in the European Union (EU). Rare cancers have an annual incidence rate of less than 6/100 000 and face challenges in diagnosis, clinical care, and research investment. Survival rates for rare cancers are lower compared to common cancer types, with significant variations among EU Member States.

Description of the problem: Policy frameworks for rare cancers are often fragmented and greatly vary across the EU. This study aims to develop a tool for assessing policy alternatives by reviewing existing national rare cancer policies, conducting interviews with experts, and analysing core stakeholders at the EU level.

Results: The main policy alternatives covered five domains: definition, registration, organisation of care, access to innovative therapies, and funding. Interviews revealed four policy options for each domain. Six core stakeholders were determined: patient organisations, healthcare professionals, researchers, industry, health legislators, and health authorities. A pilot policy assessment tool was developed on this basis.

Lessons: The pilot study coherently explored policy alternatives for rare cancers in the EU. Using these findings, policymakers and researchers can assess the impact of different policy options at a national level and contribute to the development of a unified EU policy framework for rare cancers. The pilot survey was also useful to collect input from the core stakeholders.

Key messages:

- This study identifies key policy domains and feasible alternatives. A pilot preference assessment study based on these options can aid in EU policy development.
- Navigating rare cancer policy complexities demands collaboration and innovation. Engaging stakeholders and exploring alternatives can forge a more effective EU framework for addressing rare cancers.

Abstract citation ID: ckae144.2173

Alcohol-related premature mortality in Northern Dimension partnership countries 2003-2021

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Background: Potential Years Life Lost (PYLL) is an established method to measure, follow trends and compare disease burden within and between countries. Northern Dimension Partnership in Health and Social wellbeing (NDPHS) network was established in 2003 and includes the following countries: Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Russia, and Sweden. Due to the Russian invasion to Ukraine, Russia is now excluded from the collaboration. Iceland is not included in the analyses due to too small number of events.

Methods: Premature mortality was defined as a death before the age of 70 years. Alcohol-related deaths included the following ICD-codes: E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, Q86.0, R78.0, X45, X65, Y15, K73, K74.0-K74.2, K74.6, O354, P043 and G4051. PYLL-rates per 100,000 population are presented separately for men and women in four time points: 2003, 2013, 2017 and 2021. Data were obtained from Eurostat and analyses are standardized to EU standard population.

Results: In the whole NDPHS area, alcohol related PYLL-rates declined between 2003 and 2017: from 527 to 458 in men, and from 159 to 134 in women. However, between 2017 and 2021 the rates increased: to 509 in men and to 154 in women. In 2021, the highest alcohol-related PYLL-rates were in Latvia (1696 in men and 530 in women) and the lowest in Norway (94 in men and 43 in women). Thus, the differences between countries in alcohol-related PYLL-rates were 20-fold in meles and 10-fold in females. In all countries the rates were 2-3 times higher in men compared to women.

Conclusions: Alcohol use is an important cause of premature mortality and disease burden in NDPHS area. There are marked differences in alcohol-related PYLL-rates between sexes and countries. The increase in alcohol-related PYLL-rates between 2017 and 2021 may be related to the Covid-pandemic.

Key messages:

- Alcohol use is an important cause of premature mortality and disease burden in NDPHS countries, and there are marked differences in alcohol-related mortality between sexes and countries.
- Reduction of total alcohol consumption is an evidence-based most effective public health measure to reduce alcohol-related health harms.

Abstract citation ID: ckae144.2174

Revisiting the Science-Policy Interface: Lessons from the Swiss Response to the COVID-19 Pandemic

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Background: In the wake of the COVID-19 pandemic, Switzerland found itself grappling with unforeseen challenges, particularly in the realm of the science-policy interface. Despite various post-crisis reflections on 'lessons learned', a cohesive and comprehensive assessment of these pivotal interactions has been notably absent. We aim to contribute to closing this gap by mapping interactions at the science-policy interface and critically analyze the interaction between researchers and policymakers during the COVID-19 pandemic in Switzerland.

Methods: Using Critical Discourse Analysis, we examine the socio-political influences on the discourse surrounding science-policy interaction. Our dataset includes tweets from Swiss National COVID-19 Science Task Force members, Federal Office of Public Health members, and government representatives, as well as print media articles and official press releases from public health departments. Drawing on Foucault's notion of power-knowledge dynamics, we explore how researchers and decision-makers interact in the public sphere.

Results: Key aspects identified: (1) power struggles surrounding accountability and role clarity among stakeholders, (2) the dual role of print and social media as both vehicle for dissemination and communicator shaping public perception, and (3) the pervasive ambiguity in science-policy collaboration throughout the Swiss COVID-19 response.

Conclusions: Our study emphasizes the importance of reflective learning, drawing on insights from the COVID-19 pandemic. It reveals the complexities in navigating public health crises, emphasizing the challenges of transparency, accuracy, and delineation of responsibilities. These dynamics stress the need for continuous evaluation and refinement of strategies to foster collaboration between researchers and policymakers for effective pandemic preparedness and response.

Key messages:

- Understanding and Addressing Power Dynamics in Science-Policy Interactions.
- Necessity for continuous evaluation to enhance collaboration between researchers and policymakers for future preparedness and response efforts.

Abstract citation ID: ckae144.2175

Everyday household costs of raising a child with cerebral palsy

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Background: Caring for a child with a disability can be costly in terms of time and energy, and it is also associated with lower incomes and higher direct costs, such as costs for assistive technologies, transport, food, clothing and leisure activities. However, few studies that have focused on households' everyday costs associated with raising a child with disability. This study is based on the capability approach. The economic costs of a child with cerebral palsy are defined as the economic costs associated with achieving the same capabilities, or functionings, as a child without cerebral palsy. The purpose of this study is to explore the needs and economic costs in households raising a child with cerebral palsy. The results are important to inform, plan and justify targeted policies and interventions.

Methods: Digital in-depth interviews with caregivers from 15 Norwegian households raising children with cerebral palsy (aged 4-17 years, GMFCS levels 1-5). 12 women, 2 men and a couple were interviewed two times (1-2 hours each).

Results: The caregivers who took part in the interviews described their demanding role and that they spend a lot of time organizing daily routines, activities, health services, assistive technologies and assistants. Many of them initially reported that they do not have many daily extra costs, but when discussing the different areas of consumption, it emerged that households have extra housing costs because they need to make adaptations, remodeling and maintenance to their homes. An adapted car, which requires service, insurance and fuel, is often used for transport. The washing machine runs regularly and towels, sheets and clothes need to be frequently changed. Sometimes they also end up buying food, clothes or toys that are not used.

Conclusions: Households caring for children with cerebral palsy have additional costs for several types of expenses, including especially high costs for housing and transportation.

Key messages:
- Households raising a child with cerebral palsy have needs that generate additional costs.
- The costs vary and it is important to cover a broad range of cost areas.

Abstract citation ID: ckae144.2176
Enhancing Labor Market Participation of Older Adults: Health and Workplace Adaptations

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Background: The labor market dynamics for older adults have significantly shifted due to extended life expectancy and evolving socioeconomic conditions. This study examines the prerequisites for older adults to remain longer in the labor market across various European countries, emphasizing the interplay between health status, workplace adaptations, and economic factors.

Methods: This cross-sectional study analyzed data from several European surveys focusing on older workers. The methodology included logistic regression to evaluate the impact of health status and workplace adaptations on continued employment among older adults. Data were further stratified by country to assess regional differences in employment patterns for this demographic.

Results: Preliminary results indicate that older adults with access to workplace adaptations-such as flexible working hours and ergonomic interventions-show a significantly higher likelihood of remaining in the labor market (OR = 2.3, 95% CI 1.8-2.9). Additionally, those reporting good to excellent health were 1.5 times more likely to continue working compared to their peers with poor health outcomes. The results also highlight substantial regional variability, with Scandinavian countries showing higher employment rates among older adults compared to Southern European regions.

Conclusions: The data strongly support the need for policy interventions that promote health maintenance among older workers and encourage employers to implement adaptive measures. Such strategies are likely to enhance the labor market participation of older adults, contributing to economic stability and reducing the potential strain on social security systems. Innovative public health policies aimed at supporting aging workers are crucial for sustaining workforce productivity in the face of demographic shifts. NordForsk supports the study Sustainable working-life for aging populations in the Nordic-Baltic region, Project No.: 139986.

Key messages:
- Workplace adaptations and good health significantly extend working life among older adults.
- Regional differences in employment for older workers highlight the need for tailored public health policies.

Abstract citation ID: ckae144.2177
The Health-Employment-Longevity Nexus: Implications for Retirement Age Policies in European Countries

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Background: Advances in medical knowledge and technology have led to increased general and healthy life expectancy in Europe. Combined with declining fertility rates, these trends have resulted in an aging population. Many European countries have been reluctant to adjust the retirement age, putting pension funds and Pay-As-You-Go social insurance systems at risk. Linking entitlement age to life expectancy could mitigate this risk and extend working life, but such policies are politically unpopular. This study investigates the empirical relationship among self-perceived health, employment, job quality, and life expectancy in the European context.

Methods: The study analyzes the determinants of self-rated health using the SHARE database, combined with general and healthy life-expectancy data from EUROSTAT and, where missing, the WHO, focusing on European countries.

Results: In Europe, both past and present employment improve self-rated health. Job quality has a detrimental effect on self-rated health for women and a positive effect on men. Life expectancy and healthy life expectancy raise self-rated health, while poverty rates negatively affect it. Job quality is widespread among European women, and its negative effect on health rises with age. For European men, job quality has a positive effect, peaking around age 56. The effects of employment and job quality on self-rated health are simultaneous. In European countries with an elasticity >1, healthy life expectancy rises faster than general life expectancy at higher ages, suggesting an improved ability to work at older ages. This finding indicates that adjusting the retirement age could be a powerful tool for improving the sustainability of social insurance systems in Europe.

Conclusions: For younger European women, it may be rational to set higher retirement-age increments and put them on a declining course as they age, considering the gender-specific age dynamics and job quality effects on health.

Key messages:
- In Europe, employment and job quality significantly influence self-rated health, with gender-specific effects that vary with age and impact retirement age policies.
- Adjusting retirement age in line with healthy life expectancy could improve the sustainability of European social insurance systems, considering health-employment dynamics.

Abstract citation ID: ckae144.2178
The practice of defensive medicine among Italian physicians: a cross sectional study in Rome

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Background: To identify the perception and the reason of defensive medicine among Italian physicians, and identify the socio-demographic and work-related determinants of the increased practice of defensive medicine.

Methods: This study is a cross sectional web survey. A questionnaire was sent by e-mail to all the physicians registered to the Order of Physicians and Dentists of the Province of Rome. The collection period was from mar 2024 to may 2024. Descriptive analysis and multivariable linear regression models were conducted to describe differences between groups and to estimate the relationships between variables.

Results: A total of 291 physicians completed the survey and were included in this analysis. Almost 60% of respondents feel under pressure due to the possibility of legal disputes. 73,8% adopted defensive medicine behaviours during the last year. More than 80% are aware that defensive medicine represents a limitation for their profession and a unfavourable factor for patients. Who answered that they practice defensive medicine think that it is a factor limiting their professional activity (OR: 2.3) and an unfavourable factor for the patient's health (OR: 1.1).

Conclusions: Defensive medicine is an important factor in health care costs without increasing the benefits to the patient. The study contributes to a deeper understanding of the perception of defensive medicine among physicians. Defensive medicine practice is common among physicians with concerns about increasing pattern in the future.

Key messages:

- Our study highlights physicians' awareness of adopting defensive medicine behaviors in their clinical practice.
- The study contributes to a deeper understanding of the perception of defensive medicine among physicians.

Abstract citation ID: ckae144.2179
An overview and comparison of approaches used for health policy analysis: What to use and when?

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Background: Public health challenges are complex and analyzing them requires advanced approaches such as, societal cost-benefit analysis (SCBA), health impact assessment (HIA), and strategic foresight. Analyzing health policy is a multifaceted process, and depends on, among others, the scope, approach, and policy goals. Given this complex and multifaceted nature, it is not always clear which approach to use, and how the approaches can complement each other. Therefore, health policy analysis could benefit from practical and explicit guidance regarding clear identification of cases and types of analysis. Hence in this paper we aim to develop a framework that can provide this guidance.

Methods: In this paper we describe the differences and similarities of three distinct health policy assessment approaches, SCBA (an economic evaluation approach that takes into account the impact on society as a whole), HIA (is a combination of tools that focus on evaluating the potential health effects of a given policy) and strategic foresight (a systematic and participatory approach used to anticipate and plan for future trends and uncertainties that may impact policy), their application, and how they can complement each other within the field of public health. A framework that can be used when deciding which health policy approach to use for a given case will be developed, based on existing literature, frameworks, and a case study.

Discussion: This paper contributes to knowledge on health policy analysis and towards efficiency and clarity in analyses conducted in this field.

Key messages:

- There is little guidance regarding how to conduct health policy analysis.
- Clear guidance on which approaches to use and how they complement each other will contribute towards efficiency and clarity in health policy analysis.

Abstract citation ID: ckae144.2180
ERIMS assessment Tool Enhances Emergency Response in WHO Europe Region

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Issue/problem: The implementation of an Emergency Response Information Management System (ERIMS) assessment tool improves health emergency responses within the World Health Organization - European Region. The tool's deployment aims to refine data management processes and bolster preparedness strategies. Managing health information systems (HIS) effectively during emergencies is a persistent challenge, as technologies keep innovating and potential challenges are constant. The ERIMS assessment tool addresses this by offering a structured approach, ensuring improved emergency responses and system resilience.

Description of the problem: Adopting a systems approach, the ERIMS tool was designed to be flexible, allowing adaptation to various HIS architectures and emergency coordination mechanisms. Its design and development process included consultations with digital health and emergency management experts and field testing across three WHO member states.

Results: Field applications of the ERIMS assessment tool demonstrated its capacity to evaluate, including, digital capability and knowledge management with focus on emergency scenarios. The tool identified systemic gaps, offered strategic guidance on enhancing data processes, and fortified decision-making protocols. These outcomes not only highlighted the tool's utility in assessing HIS readiness but also its impact in improving emergency response mechanisms.

Lessons: The deployment of the ERIMS assessment tool enhanced HIS by providing an evaluation of emergency preparedness and response capabilities with a focus at the national perspective level. The tool's application showcased its role in advancing public health emergency preparedness, illustrating how assessments can lead to substantial improvements in health information management and emergency response readiness.

Key messages:

- ERIMS assessment implementation improves emergency data management.

- Better preparedness relies on boosting digital capabilities and knowledge management.

Abstract citation ID: ckae144.2181
Hybrid accountability in global health public-private partnerships: a literature and case study

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Background: Recent global health public-private partnerships (PPPs) offer novel approaches to public health issues, yet they lack clear public accountability. Hence, it remains unclear how accountability is organised and practiced. This research examines accountability in global health PPPs, how it is manifested, and derives lessons for developing an accountability framework.
Methods: The study utilized both a scoping literature review, examining the databases SCOPUS, Web of Science and MEDLINE, which yielded 35 eligible articles from 334 records, and an exploratory case study focused on an accountability event within the Global Stop Tuberculosis Partnership (STBP), incorporating a document analysis and an expert interview to enhance insights from the literature review.
Results: Authors studying PPPs often conceptualized accountability broadly and favoured a view tied to hierarchical state-led governance and democracy. However, at the global level, this political accountability is largely absent. In PPPs, it is replaced by a mix of bureaucratic, legal, social, audit, fiscal, and rather soft accountability mechanisms. Also, PPPs' accountability landscape is dynamic, shaped by different normative considerations and by the interdependence among partners. In 2020, the allegations for misconduct at the STBP exemplified public reputational accountability, followed by audit accountability leading to an enforced soft accountability to STBPs' mission & purpose.
Conclusions: This study highlights the necessity for rethinking accountability in global health PPPs due to the limitations of existing structuralist frameworks. A new hybrid accountability framework is proposed. It considers a strong accountability focus on PPPs' purpose, their processual dynamics, and normative aspects. Lastly, it is recommended to further investigate the trade-off between transparent accountability mechanisms and the practical necessity for confidential backstage processes in PPPs.
Key messages:

- Exploring a hybrid accountability framework in global health PPPs beyond only static accountability snapshots, helps to understand PPPs' true dynamic, purpose-driven and individualized accountability.
- Without regulatory mechanisms and state governance, individual action and new collaboration become essential, requiring soft accountability mechanisms as increased trust and cooperation among partners.

Abstract citation ID: ckae144.2182
The HEROES (HEalth woRkfOrcE to meet health challengeS) Joint Action

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Background: The HEROES (HEalth woRkfOrcE to meet health challengeS) Joint Action aims to advance health workforce planning across the EU, addressing the pressing need for a resilient, sustainable, and accessible health service systems. Given the evident strain on health systems demonstrated during the COVID-19 pandemic, this initiative seeks to address the critical need for strategic HWF planning. Building on previous projects, HEROES will foster the capacity of EU states in workforce planning, preparing the health systems to meet future challenges.
Methods: The study adopts a collaborative framework involving 19 EU countries, segmented into clusters based on health system characteristics. A stepwise approach ('AS IS,' 'TO BE,' 'TO DO') characterizes the methodology, incorporating extensive data collection, stakeholder engagement, and scenario forecasting. Country-level information on HWF Data and Planning will be compared both across countries in clusters and across clusters.
Results: Initial findings indicate significant disparities in health workforce data quality, availability, and planning methodologies among the states. Identified methodologies also involve real-world data applications and predictive analytics to refine health workforce planning. Efforts are underway to define an Advanced Minimum Dataset (AMDS) to synchronize health workforce data and define planning tools across the clusters, as country-level AS IS reports have been finalized and cross-country comparisons are ongoing.
Conclusions: Collaborative, data-driven health workforce planning can significantly enhance health system resilience and responsiveness. Recommended public health actions include enhancing HWF data integration, forecasting capabilities, and stakeholder participation, with the aim of shaping national health policies and practices. The public health impact is profound, as it allows to improve health service delivery and workforce adaptability in response to dynamic health demands.
Key messages:

- The HEROES Joint Action advances EU health workforce planning, with the aim of enhancing the resilience and responsiveness of health systems.
- Strategic data-driven approaches in health workforce planning are pivotal for resilient, accessible and sustainable healthcare systems.

Abstract citation ID: ckae144.2183
Positive effects from the introduction of fully subsidised nicotine replacement therapy in Ireland

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Smoking remains a leading cause of preventable death in the Europe. Despite recent declines in prevalence, the adverse health and economic effects of smoking are felt disproportionately by disadvantaged groups. Nicotine replacement therapy (NRT) is well established as an effective smoking cessation aid; however, its financial cost may act as a barrier to uptake. In February 2023, eligibly for fully subsidised NRT was expanded to all users of smoking cessation services in Ireland. This study evaluated the impact of universal access to NRT on smoking cessation. This study utilised secondary analysis of routinely collected data from service users attending Irish smoking cessation services. Individuals were followed for twelve weeks. Changes in self-reported quit status and NRT use were analysed before (January 2021 - February 2023) and after (March 2023 - December 2023) the introduction of fully subsidised NRT. Logistic regression modelling identified factors associated with smoking cessation. The total number of participants was 19,717. There was higher uptake of NRT among service users who were eligible for free NRT (59% vs 40%, $p < 0.001$) and higher quit rates at four (41% vs 29%, $p < 0.001$) and twelve (29% vs 20%, $p < 0.001$)

weeks. Logistic regression models demonstrated that NRT use was significantly associated with smoking cessation at four (aOR 1.88, 95%CI 1.47 - 2.41) and twelve (aOR 1.76, 95%CI 1.37 - 2.28) weeks. This study confirms the effectiveness of NRT in an Irish context and illustrates the benefits of universal access to this life saving medicine. Targeted interventions are required to intensify services offered to disadvantages groups if the ambitious objectives of Tobacco Endgame are to be achieved. These findings represent an urgent call to action for European policy makers to deliver equitable access to NRT across the continent. Such action can transform the public health landscape and help bring us closer to achieving a tobacco free Europe.

Key messages:

- This study confirms the real-world effectiveness of NRT use as a smoking cessation aid.
- The removal of financial barriers is associated with increased NRT use and successful smoking cessation.

Abstract citation ID: ckae144.2184
Impact of COVID-19 measures on psychosocial outcomes in Austria – a qualitative vignette study

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During the COVID-19 pandemic, Austria implemented frequent and restrictive containment measures. We aimed to explore the perspectives of individuals affected by political and epidemiological decisions in Austria, particularly in Vienna and Lower Austria. A qualitative vignette-based study conducted from July to Oct 2023 utilized two hypothetical future pandemic scenarios to prompt in-depth discussions in semi-structured interviews with Austrian residents about their perspectives, either private or from the fields of healthcare, education, citizen representation, business, research, public health and politics. Interview data was analysed using a thematic analysis approach. To ensure results' rigor and accuracy, we followed the COREQ guideline and included two citizen research partners. This project is funded by WWTF (Grant ID: LS22071). Preliminary thematic analysis from 28 interviewees (53.6% female) aged 19-77 (mean 53.0 years) shows that the negative effects of school closures was a major concern among participants. Despite diverging points of view on other topics, there was a broad consensus that school closures would have negative consequences, such as unstable educational modalities impairing young people's individual development, decreasing psychosocial support in their peer groups, leading to long-term educational losses, not only for individuals but also for society as a whole, and having a negative impact on economic growth, social justice and innovation. The participants also described a lack of evidence for the necessity of the frequent school closures during the pandemic as had happened in Austria and suggested a different approach in a future pandemic. Further topics were the deterioration of mental health, incentives instead of mandatory measures, more transparent communication by authorities, agreement between experts and researchers, reducing uncertainties regarding pandemic management, compliance by the general public and democratic social cohesion.

Key messages:

- Addressing the multi-faceted impact of a pandemic requires a comprehensive approach that considers mental health, social justice, communication and social cohesion alongside containment measures.
- This work represents a learning from the COVID-19 pandemic. From the conclusions of this study, recommendations can be derived to be better equipped in future pandemics.

Abstract citation ID: ckae144.2185
Accounting for health equity in policy evaluation: a content analysis of primary research

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Background: Public Health researchers increasingly make use of sophisticated study designs and methods to evaluate the effects of policies on health and social outcomes. Natural experiment evaluation (NEE) conceptualises policies as 'natural' experiments that occur outside of the control of researchers. Often, NEE employs quasi-experimental methods (QEM) which enable researchers to rigorously evaluate the effect of population-level interventions. As for other health-related research, it is unclear to what extent such public health evaluations can and do consider the (health) equity implications of policies. We sought to investigate how health equity is addressed in NEEs and other policy evaluations that employ QEM.

Methods: We identified a random sample of primary research as part of a pre-registered scoping review (https://osf.io/3h6cb/). Studies that employed methods labelled as interrupted time series, difference-in-differences, controlled before and after, regression discontinuity, and synthetic control were included. Through content analysis, we examined how health equity was considered in data analysis and discussion sections.

Results: We analysed 59 studies, of which 25 were stratified for one or more socially-stratifying factors. Results were mainly stratified by sex ($n = 15$, 25.4%), age ($n = 13$, 22%), and diverse measures of socioeconomic status ($n = 14$, 23.7%), i.e. income, employment, education, or other factors. Of these, 21 studies included a discussion of health equity-related results, ranging from a few sentences to a holistic discussion including recommendations for decision-makers. Most commonly, researchers recommended monitoring of policy effects in different sub-populations, and careful policy design that conceptualises complex policy effects, including unintended and unequitable effects.

Conclusions: Policy evaluations have great potential for informing public health decision-making but health equity aspects were under-examined in these studies.

Key messages:

- Health equity is assessed by evaluating policy effects in relevant sub-populations. Only 25 of 59 studies included results that were stratified for one or more socially stratifying factors.
- Studies that were focused on disadvantaged populations commonly included recommendations for policymakers, calling for better policy design and improved monitoring of policy effects.

Abstract citation ID: ckae144.2186
The meta-governance of quality registries for public health

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Issue/problem: Healthcare-related planning and policy requires evidence, which in turn requires data. Generating sensitive, high-quality data is expensive. Given the constraints of routine or study-related data for quality monitoring, quality registries are commonly used. But when is it adequate, from a public health meta-governance point of view, to establish dedicated quality registries?

Description of the problem: Many countries have established public patient registries over time. The lack of a meta-governance framework complicates decision-making for establishing and funding dedicated quality registries. Simultaneously, legal advancements like the European Health Data Space may enhance the use of routine data in healthcare policy, potentially transforming both registry and meta-governance practices.

Results: We identified key meta-governance challenges, such as setting criteria for the creation, modification, or closure of registries, deciding on public funding and choosing between routine and specially collected data. We argue against using absolute thresholds like disease prevalence, advocating for a scorecard approach that evaluates epidemiologic reasoning, policy relevance, healthcare impact and factors like data availability and registry synergies.

Lessons: The EHDS will enable enhanced secondary data use, necessitating decisions on when to use routine versus specifically collected data. Decision-makers must consider sustainability, ethics, practicability and data linkability, while recognizing risks such as data quality limitations and potential bias from original data collection purposes.

Key messages:

- The necessity for quality registries varies by case, serving specific policy questions. Optimizing funds and avoiding arbitrary decisions require a strategy based on a meta-governance framework.
- With the introduction of EHDS, the focus may shift more toward data curation and quality control, making it critical to align registry efforts with the broader health information system.

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Confronting the Global Crisis of Youth and Firearms in the Wake of Serbia’s First School Shooting

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Issue: School shootings reflect crucial systemic flaws, notably the ease of firearm access and training for children, despite rigorous firearm regulations.

Description: In May 2023, Serbia was rocked by its first school shooting in Belgrade, where a 13-year-old boy, armed with guns and Molotov cocktails, killed 9 and injured 6.His actions were amplified by his proficiency with firearms, a skill honed under his father’s guidance at shooting ranges. This tragic event ignited a nationwide debate on gun control. Our study seeks to attain an in-depth analysis on regulations on minimum age for firearm training in context of school shootings in Serbia and USA as countries with highest rates of civilian gun ownership globally.

Results: Serbian regulations lack a definitive minimum age for firearm training at shooting ranges, mirroring a situation in the USA, where 17 states do not have child access prevention laws, and 43 states lack mandated safe storage requirements. A worrying trend is the escalation in mass shootings by individuals aged 21 or younger, deviating from the earlier trend of middle-aged perpetrators. This younger demographic often seeks fame, inspired by previous mass shooters, contributing to the rise in both deliberate and accidental shootings by young people.

Lessons: We need to consider the implementation of regulations on minimum age for children firearm training at shooting ranges, as well as stricter control of the ranges. This problem extends beyond national boundaries, reflecting a global issue. The accessibility of firearms to youth, coupled with their developmental susceptibility to impulsive and aggressive behavior, raises significant concerns.

Key messages:

- To increase global awareness and stricter regulations on youth firearm access, emphasizing the stricter regulations on shooting ranges and the integration of firearm safety education into curricula.
- Firearm control and children safety is a collective international duty, crucial for addressing a concern that impacts public safety and youth welfare.

Abstract citation ID: ckae144.2188
An Irish public health policy research team: impact and lessons learned, one year on

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Issue: In 2023, in Ireland, a public health policy research team was established in the Health Information and Quality Authority to conduct evidence syntheses and provide evidence-based advice to inform national decision-making, at the request of the Department of Health. One year on, we reflect on the impact of this team and outline lessons learned. These findings may support other countries in creating and developing public health policy research teams.

Description of the problem: We aim to answer the following questions: What impact can a public health policy research team have and what are the lessons learned, one year on? Projects completed by the team in 2023 were reviewed for stakeholder engagement (such as expert and public and patient involvement) and impact (feedback from policymakers, resulting public health actions or policies and online report downloads).

Results: Seven public health projects were completed in 2023, in areas including: Long COVID, public health reform, rapid multiplex testing, and medical countermeasure stockpiling. National and international stakeholders were engaged with via expert advisory group membership, document review and project presentations. Patient representatives were included from Long COVID Advocacy Ireland and Rare Diseases Ireland. Project reports were downloaded a total of 281 times. Positive feedback was received from all stakeholders. Project findings were presented to policymakers to inform national public health and rare disease strategy development, and the Long COVID model of care in Ireland.

Lessons: Early and ongoing stakeholder engagement is key when translating research to practice, via policy. Innovative methods of engagement, including public and patient involvement, can ensure meaningful collaboration. Adapting methodologies to meet stakeholder needs, such as rapid evidence synthesis, enhances impact. Lastly, research impact on policy takes time, and an understanding of national policy development is required.

Key messages:

- A public health policy research team provides impactful evidence synthesis to advise national policymakers.
- Stakeholder engagement is key to developing impactful policy advice.

Abstract citation ID: ckae144.2189

How do industry and other actors undermine tobacco control policies post-adoption? A scoping review

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Background: Over recent decades, many countries have strengthened their tobacco control policies. To be effective, full implementation is needed. Tobacco industry interference is widely recognised as a key barrier to tobacco control progress and evidence-based models like the policy dystopia model (PDM) list industry strategies, focusing on those avoiding and undermining policy adoption. While prior research highlighted industry activities post-adoption, these have not been captured systematically. This review aimed to map the efforts of industry, front groups and other actors to undermine the implementation of policies, including marketing, packaging, smokefree and flavour measures.

Methods: We searched six literature databases, relevant bibliographies and grey literature, and consulted experts. We included articles describing one or more attempts to undermine adopted policies, including marketing, packaging, smokefree and flavour. The PDM served as starting point for coding; additional strategies were identified inductively. Strategies were charted against aims and policies.

Results: Several aims and strategies were identified which were similar across policies. Following policy adoption efforts to 1) overturn and 2) weaken measures, and 3) delay implementation continued. Legal strategies were utilised and there were attempts to influence stakeholders. In addition, tobacco industry and other actors sought to 4) undermine policy effectiveness by creating confusion, circumventing policies, and noncompliance, and 5) use implementation as an opportunity to enhance industry reputation.

Conclusions: Interference from tobacco industry and other actors threatens effective tobacco control policy implementation. The public health community must continue to monitor, expose and counter industry conduct after policy adoption. More research is needed to enhance our understanding of how industry interferes in policy implementation, and how this can be pre-empted and countered.

Key messages:

- The interference from tobacco industry and other actors following policy adoption threatens effective tobacco control, and needs to be monitored, exposed and countered by the public health community.
- Policymakers and civil servants need to be wary of efforts to undermine tobacco control policies and act to ensure effective policy implementation.

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Proton-pump inhibitor use in older adults: Public vs. Private Prescribing in Portugal

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Background: Proton pump inhibitors (PPI) are frequently overprescribed, posing challenges to patients and healthcare systems. In Portugal, the publicly funded National Health Service (NHS) provides universal coverage and reimburses the cost of medications regardless of the prescription origin. If private practices may benefit from longer consultation times allowing better prescription, they do not face any incentive to avoid over-prescription. We aimed to compare outpatient prescription trends, patterns, and costs of PPI among older adults in private and public sectors.

Methods: Nationwide retrospective ecological study on PPI prescribed for older adults in Portugal 2020-2022. Data on defined daily doses (DDD) and costs were obtained from a national public database by healthcare sector, sex (female/male), and age group (65-74, $\geq$75). We analysed trends, market share of DDD per 1000 older adults per day (DID), and mean cost per DDD (€/DDD) for all PPI substances.

Results: We observed a decrease in prescribed PPI from 349.0 DID in 2020 to 341.9 DID in 2022. Omeprazole (reference and cheaper substance) was the most prescribed drug for females and pantoprazole for males in the public sector. Similar pattern was observed among those aged $\geq$75 in the private sector while for those aged 65-74, esomeprazole was the most prescribed drug. Overall, the private sector prescribed PPI with a 20% higher price (0.126 €/DDD) than the public (0.106 €/DDD), with greater differences among the most expensive substances (rabeprazole +0.032 €/DDD; lansoprazole +0.029 €/DDD; esomeprazole +0.021 €/DDD).

Conclusions: PPI prescription followed similar trends in both sectors, but private practitioners tend to prescribe more expensive drugs, because their patients can afford them and because there is no incentive for more rational prescription. Since the NHS financially supports drugs prescribed in private practices, financial incentives towards rationale prescription should also fall in this sector.

Key messages:

- Overall, the private sector prescribed PPI with a 20% higher price (0.126 €/DDD) than the public (0.106 €/DDD), with greater differences among the most expensive substances.
- Since the National Health Service financially supports drugs prescribed in private practices, financial incentives towards rationale prescription should also fall in this sector.

Abstract citation ID: ckae144.2191

Can more CVD prevention increase life expectancy in Germany? Analysis with European data 2000-2019

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Background: Life expectancy (LE) in Europe is increasing since long - while mortality from cardiovascular diseases (CVD) declines, attributed to advances in therapy and prevention. Whether this is still applies the last 20 years is unclear. Recently, Germany's low LE compared to other Western European countries (2019: 81.3 yrs; Spain: 84, Italy 83.6) was seen as result of high CVD mortality due to insufficient prevention. This led to the establishment of the German Federal Institute for Prevention and Education in Medicine, aimed at reducing CVD and -in the long term - narrowing the gap in LE. We explore whether data on CVD mortality and morbidity support this idea.

Methods: With data from OECD, WHO and IHME (GBD 2021), we calculated the mean annual change in LE and in age-standardised mortality (ASM) for CVD for 2000-2019 for European countries by sex. We estimated the linear association (adj R^2) between the mean annual change in LE and ASM for CVD for West- and East-Europe, and -country-specific- between incidence and ASM from CVD.

Results: For 2000-2019, mean annual change in LE was lower in West- than in East-Europe: 0.25 yrs vs. 0.30 in men and 0.17 vs 0.22 in women; for ASM in CVD, it was about half as large: -6.6/100.000 vs. -11.1 for men and -4.1 vs. -8.0 for women. Similarly, the adj R^2 for the association between mean annual change in LE and in ASM for CVD was lower in West- compared to East-Europe: 0.43 vs. 0.24 in men and 0.21 vs. no association (adj R^2 -0.01) in women. Courses of CVD incidence were heterogeneous (linearly or wave-shaped in- or decreasing, stable or u-shaped). In Germany, it decreased wave-shaped, with an adj R^2 for linear association with ASM for CVD of 0.79 in women and 0.63 in men. The association between LE and ASM for CVD is low in West-European countries. Even if amplified prevention lowers CVD mortality, a positive effect on LE is questionable. Differences in LE are stable since long. Non-morbidity related factors might decisively effect LE.

Key messages:

- Life expectancy in Europe-and it's mean annual change since 2000 is not associated with age-standardised CVD mortality in women, and only moderate in men in West-Europe, in contrast to East-Europe.
- Course of CVD incidence is country-specific and very heterogeneous and reveals no overall association with CVD mortality rates.

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Empowering health literacy: Turkiye's Health Literacy Action Plan 2022-2026

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Issue/Problem: The 'Health Literacy Action Plan 2022-2026' of the Turkish Ministry of Health addresses the critical public health issue of limited health literacy, leading to increased hospital admissions, inappropriate emergency department use, and poor health outcomes. This underscores a significant challenge in individual health self-management and higher healthcare expenditure within the country.

Description of the Problem: The Health Literacy Action Plan aims to tackle disparities in health literacy levels among people. It employs customized teaching schemes, digital communication, and inclusive healthcare practices to reach every demographic group. The plan seeks to enhance health knowledge and empowerment among Turkish people by increasing access to medical information, simplifying clinician instructions, and promoting closer communication between patients and healthcare professionals.

Results: Comparative evaluation of nationwide surveys conducted in 2017 and 2023 with 15,000 participants shows remarkable improvements. Despite delays due to the pandemic, the action plan led to a notable increase in adequate health literacy levels from 31.9% in 2017 to 46.1% in 2023. Additionally, significant improvements were observed in ailment prevention and health promotion, with health literacy levels in disease prevention increasing from 28.4% to 45.7%.

Lessons: The Health Literacy Action Plan plays a crucial role in developing and implementing multifaceted public health strategies based on data and stakeholder participation. These interventions, requiring continuous monitoring and adjustment, are essential steps toward achieving high-level health literacy.

Key messages:

- Strategic health literacy interventions are essential for improving health outcomes and optimizing the use of public resources.
- Evidence-based interventions and ongoing evaluation are key to promoting health literacy.

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Innovation in border regions: from inequality to equity! Starting with acknowledgment in policy

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Living in a border area can create health inequalities due to limited access to healthcare compared to people in central regions. In centrally located areas, citizens can choose healthcare providers 360 degrees around them, benefiting from full prevention and health promotion coverage. In contrast, border residents have only 180 degrees of access, leading to partial inclusion in health services. National systems typically prioritize health equality but not necessarily equity, especially for those living in border regions. To address this gap, innovative policies that account for cross-border interactions are needed, benefiting over 35% of the EU population living in border areas. A key question is how to ensure health equity in border regions. To explore this, cross-border case studies, like air pollution, food purchases, antibiotic availability and q fever were looked at to identify the situation, the public health challenges it entails and existing solutions. The Essential Public Health Functions (EPHF) framework, developed by the World Health Organization and the International Association of National Public Health Institutes, was used to evaluate public health functions with a focus on achieving greater equity and inclusiveness. Currently in cross-border health key EPHF functions such as health promotion and disease prevention are emphasized, while others like public health governance and community participation need improvement. To better implement health equity in border regions, for use of the EPHF framework an additional and short guideline was developed on how border regions should be considered in national, regional, and local public health policies. This approach offers a pathway to addressing health inequalities in these unique environments: a crucial step towards creating health equity.

Key messages:

- The EPHF framework as an innovative tool to strengthen public health in border regions.
- Take the geographical living space of citizens in a border region into account to achieve health equity.

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Impact of time and COVID-19 pandemic on GP mental health consultations in deprived neighborhoods

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Background: The stringent lockdown measures and limited physical access to GP care at the start of COVID-19 pandemic resulted into a decrease of mental health consultations. It raised concerns about the access of patients with mental health problems. The aim of this study is to investigate the mental health GP consultations amongst patients from deprived neighborhoods before and during COVID-19 pandemic, especially after the stringent lockdown in the Netherlands.

Methods: In an observational study (2018-2022), medical data of 360,645 patients were analyzed for the proportions of mental health consultations (segmented per month) by comparing the lockdown phase (March 2020-May 2020) and post-lockdown phase (June 2020-June 2022) with the pre-pandemic period the patients living in deprived and non-deprived neighborhoods.

Results: Analyzing a total of 759,863 mental health consultations showed that during the lockdown phase of COVID-19, less mental health problem consultations were observed than pre-pandemic. This decrease was not significant for patients from deprived neighborhoods, but the decrease was significant for patients from non-deprived neighborhoods, RR = 0.990; 95%CI=0.934-1.051 and RR = 0.918; 95%CI=0.885-0.953 respectively. Conversely, the number of post-lockdown phase consultations for patients in deprived neighborhoods was significantly increased compared to pre-pandemic levels (RR = 1.074;95%CI=1.002-1.152), but not for patients in non-deprived neighborhoods (RR = 1.000; 95%CI=0.959-1.043). This increase in post-lockdown phase consultations in deprived neighborhoods can be explained by the higher frequency of consultations per patient.

Conclusions: Consistently over time, demand for GP mental health care was and remains higher among patients from deprived neighborhoods, with an increase in post-lockdown consultations. Sufficient access to primary health care should be guaranteed to ensure treatment of mental health problems for social-economic disadvantaged groups.

Key messages:

- Socioeconomic status has a negative sustainable impact on demand for mental health consultations in deprived neighbourhoods.
- To ensure the treatment of mental health problems for social-economic disadvantaged groups, sufficient access to the primary health care should be guaranteed at all times.

Abstract citation ID: ckae144.2195
Strengthening Equity, Diversity, and Inclusion in medical education via an intersectional approach

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Background: In the wake of COVID-19, equity, diversity, and inclusion (EDI) policies have been taken up in the health field, yet the actual impact of these initiatives, particularly for multiply marginalized individuals, is debated. Despite progress in areas such as diversity promotion, EDI has been critiqued as superficial and as failing to challenge the drivers of health inequity. This presentation discusses how an intersectionality-informed approach can help harness the transformative potential of EDI.

Methods: This research is informed by a literature review of EDI initiatives in the health field, and is an offshoot of a 4.5 year international project funded by the Canadian Institutes for Health Research focused on evaluating and strengthening intersectionality-informed policy guidance.

Results: There is a disconnect between EDI commitments and substantive action on health inequities and an intersectional approach can help bridge this divide. We demonstrate this with a case example which brings an intersectional approach to EDI initiatives in medical education - including bias trainings, courses on the social determinants of health, and the engagement of community groups. Drawing on promising equity promoting work across these areas, we show how intersectionality can harness the potential of EDI by bringing to the fore what has often been missing, including the promotion of health stakeholder reflexivity, attention to interacting systems and structures shaping health, and meaningful engagement with underrepresented communities.

Conclusions: An intersectionality-informed approach to EDI has the potential to enhance the health equity impacts of initiatives within medical education and the broader health field.

Key messages:

- EDI initiatives in health often have limited impact on health inequities.
- An intersectionality-informed approach to EDI can help health stakeholders drive transformative action on health inequities.

Abstract citation ID: ckae144.2196
The adoption of a place-based framework to inform municipal health strategies

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Background: Health is a place-based issue. Research shows that inequalities in health are significantly influenced by social, economic, and environmental factors, making local policies related to these domains critical determinants. Yet, place-based health planning remains underutilized by local practitioners, not receiving adequate attention from policy-makers. Departing from the Municipal Health Strategy of Coimbra, this presentation aims to showcase the framework used for guiding municipal health planning, addressing multidimensional factors, geographic analysis, intersectoral collaboration and participatory approaches.

Methods: The conceptual and methodological framework followed a population health approach with a geographic lens, looking at how the health outcomes and health determinants were geographically distributed across the municipality (data disaggregated at sub-municipal level), as well as the extent to which policies from multiple sectors can address them. The planning cycle followed an iterative seven-stage process based in five key actions: 1 - Assess (Health Profile), 2 - Prioritize (Priorities), 3 - Plan (Objectives and Strategies), 4 - Implement (Action Plan) and 5 - Monitor (Targets and Measures, Monitoring Plan). Participatory processes were conducted involving local stakeholders and citizens to identify needs, establish priorities and actions.

Results: The framework for action integrates 14 goals and 94 actions across six policy domains: Sustainable Mobility and Public Places, Safe and Adequate Housing, Accessible Healthcare, Social Cohesion and Participation, Education and Health Literacy and Intersectoral and Collaborative Leadership.

Conclusions: Adopting a place-based framework to health planning, involving a geographical and multidimensional health assessment as well as the participation of local stakeholders and citizens, was considered effective in turning evidence into practice.

Key messages:

- Municipal health strategies should be developed with a place-based perspective, prioritizing health as the focal point across various intersectoral municipal policies.
- The integrated framework shed light on the experience of co-creation to inform health-oriented planning, ensuring that actions address specific needs of localities.

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Analyzing Public Discourse on the Affordable Care Act through YouTube Comments

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Introduction: Social media's pervasive role in daily life provides a unique avenue for understanding public sentiments. This study utilizes YouTube comments on an MSNBC video about the Affordable Care Act (ACA) to explore public opinions on the policy and its political implications.

Methods: A qualitative analysis of YouTube comments on an MSNBC video was conducted. Netlytic, a scraping tool, gathered 1,949 comments. Thematic analysis, based on a coding framework derived from Semetko and Valkenburg's frames, identified three predominant frames: Responsibility, Human Interest, and Economic Consequences.

Results: Of the 1949 comments posted in response to the ACA video on YouTube, 488 were analyzed. Three media frames were used to categorize the comments. Among the analyzed comments, 42% fell within the Responsibility Frame, indicating that 205 comments attributed responsibility for ACA-related issues, healthcare access, and costs to political parties, individual politicians, and government entities. The Human-Interest Frame accounted for 11% of the comments, with 53 remarks reflecting individual experiences related to healthcare access and costs. Additionally, 26% of the comments fell within the Economic Consequences Frame, signifying those 125 comments included remarks concerning the economic impacts of the ACA, such as increased healthcare access, taxes, and penalties. The remaining 21% of comments did not align with the three frames.

Conclusions: This study embarked on a comprehensive exploration of public discourse surrounding the Affordable Care Act (ACA) within the context of the 2024 presidential election, utilizing YouTube comments as a rich source of qualitative data. Through a meticulous methodological approach, which included thematic framing analysis and intercoder reliability assessments, valuable insights into the diverse perspectives and sentiments expressed by social media users regarding this critical healthcare legislation were gained.

Key messages:
- Social media allows for real-time understanding of people's thoughts, beliefs, opinions, and ideas, as well as serves as a useful tool that fosters broad, unfiltered data/content.
- Researchers conducted a qualitative analysis of public discourse on YouTube to explore the range of sentiments regarding the ACA.

Abstract citation ID: ckae144.2198
Governing the Slovenian National Cancer Control Programme - Key Lessons Learnt

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Issue: Strategic documents addressing major public health concerns should extend beyond health sector. Cancer control is commonly perceived only as a health issue, thus involving diverse stakeholders is challenging.

Description of the problem: The inclusion of stakeholders within and beyond the health sector is crucial in the preparation, and through implementation of National Cancer Control Programmes (NCCP). Lessons learned on how to involve and maintain fruitful collaboration with diverse stakeholders in Slovenian NCCP are presented.

Results: Over the past 14 years Slovenia's NCCP has built a reliable and reputable partnership with diverse stakeholders, a collaboration that continues to evolve. Efforts extend across multiple sectors, encompassing health, education, employment, research, environment, technology, and non-governmental organizations. NCCP has set up multistakeholder governance structures: an advisory board, board of experts, specialised expert groups, and a group of representatives of cancer hospitals. These groups engage a diverse range of experts and institutions nationwide. Whenever feasible, representatives of patient organizations are included. All these structures hold regular meetings, complemented by an annual event that convenes all stakeholders and also provides an invaluable platform for informal networking. To ensure seamless coordination of all activities, a dedicated team is essential. Our approach has evolved to embrace a dual leadership, comprising both a public health specialist and a clinical expert. Additionally, we benefit from the expertise of communication experts, who offer valuable insights into effectively reaching diverse audiences.

Lessons: Governing Slovenia's NCCP by involving diverse stakeholders in planning and implementation activities has demonstrated its effectiveness. Furthermore, we are witnessing an increasing number of new stakeholders actively seeking out to participate in the NCCP.

Key messages:
- Slovenia's NCCP is recognized for its credibility and strategic approach.
- Involving diverse stakeholders in cancer control endeavours has proven effective, fostering trust and partnerships.

DW. Poster display: Public mental health

Abstract citation ID: ckae144.2199
Sociodemographic predictors of the association between self-reported sleep duration and depression

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Background: This cross-sectional study is apart from one of the first and largest population-based prospective cohort studies in the UAE called the United Arab Emirates Healthy Future Study (UAEHFS). The aim of this study is to investigate the association between self-perceived sleep duration and self-perceived depression after adjustment for sociodemographic factors. Baseline line data from UAEHFS cohort participants were included in this cross-sectional study. Univariable and multivariable logistic regression models were fitted, with the binarized self-reported sleep hours as an outcome. The predictors were the self-reported PHQ-8, sociodemographic factors, and body mass index (BMI). Odds ratios with 95% confidence intervals (CI) were reported.

Results: Of 11,455 participants, 4,295 (37.5%) were included in the complete case analysis after omitting missing values. We applied a complete case analysis following omitting missing values. Participants' median age was 32.0 years (Interquartile-Range: 24.0, 39.0). In total, 63.6% of the participants reported sleep duration of more than 7 hours. Statistically significant negative association was observed between the total PHQ-8 score and binarized self-reported sleep, OR = 0.961 (95% CI: 0.948, 0.974). For one unit increase in age and BMI, the odds ratio of reporting shorter sleep with OR of 0.979 (95% CI: 0.969, 0.990) and 0.987 (95% CI: 0.977, 0.998) respectively.

Conclusions: The study findings indicate a correlation between higher total PHQ-8 scores and an increased probability of individuals reporting shorter self-perceived sleep durations when considering some sociodemographic factors such as age, marital status and employment status. However, there was no difference between females and males in reporting self-perceived sleep duration among depressed individuals.

Key messages:

- There is a correlation between higher total PHQ-8 scores and an increased probability of individuals reporting shorter self-perceived sleep durations.
- Our results can help contribute to the knowledge based on current and potential population mental health in the UAE and Gulf Region.

Abstract citation ID: ckae144.2200
Poor psychosocial status and cardiovascular risk factors are associated with depression or anxiety

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Background: Depression and anxiety are rising in South Africa but their associations with psychosocial and cardiovascular risk factors (CVRFs) remain under explored. This study determined the associations of depression and anxiety traits with poor psychosocial well-being, risky lifestyle behaviours and cardiometabolic diseases.

Methods: In a population-based cross-sectional study, data were collected via administered questionnaires, clinical examinations and biochemical assessments. Depression and anxiety traits were ascertained via the Patient Health Questionnaire-9 and Generalised Anxiety Disorder screening questions. Multivariable logistic regressions determined the associations with depression and anxiety traits; the basic model comprised sociodemographic factors, physical inactivity, tobacco smoking and alcohol misuse (CAGE ≥ 2). Psychosocial and cardiometabolic variables were entered individually in separate models.

Results: Among 678 participants, median age 52 years and mainly women (81%), prevalence of depression scores ≥ 10 were 14.2% (men:12.7%, women:14.6%, $p = 0.498$) and anxiety scores ≥ 10 were 10.2% (men:10.3%, women:10.2%). In the basic regression models, depression, but not anxiety, was associated with being separated, living as married/widowed vs. single (OR:2.01, 95%CI:1.02-3.94), and alcohol misuse (2.07, 1.13-3.78). Depression and anxiety were associated with decreasing social support (depression: 1.09, 1.04-1.12; anxiety: 1.09, 1.04-1.14), and increasing number of adverse life events. Hypertension (1.76, 1.07-2.90, $p = 0.025$), diabetes (1.98, 1.03-3.82, $p = 0.041$) and dyslipidaemia (1.97, 1.01-3.85, $p = 0.048$) were associated with depression but not anxiety.

Conclusions: The high burden and associations of depression and anxiety traits with poor psychosocial wellbeing suggest a need for holistic care approaches. The associations of depression traits with CVRFs warrant screening and care of depression in the presence of cardiometabolic diseases and alcohol misuse.

Key messages:

- The high burden of depression and anxiety traits in South Africa is associated with poor social support and quality of life, and increasing adverse life events experienced.
- The associations of depression traits with hypertension, diabetes, dyslipidaemia, and alcohol misuse highlight the need for integrated management strategies.

Abstract citation ID: ckae144.2201
Adolescent well-being in time of crisis: The role of social and residential contexts

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Background: It is unknown whether social or residential context during the COVID-19 lockdowns may impact mental well-being. We identified classes of each of social and residential context during the lockdown and examined their associations with mental well-being among French adolescents one-year after the first lockdown.

Methods: We used data collected in a cross-sectional study design in 2021 from 387 adolescents ages 12 to 15 years enrolled in the school-based pilot study for EXIST. Participants reported social and residential characteristics during the lockdown retrospectively, and current mental well-being in self-report questionnaires. We used latent class analysis to identify classes of social and residential contexts, and linear regression models to study their association with mental well-being.

Results: Four social context classes were identified: class 1 'Low opportunities for social contacts at home', class 2 'Moderate opportunities for social contact at home", class 3 'High opportunities for social contact at home', and class 4 'Very high opportunities for social contact at home'. Compared to class 4, lower levels of mental well-being were observed among adolescents in class 1 (b= -4.08, 95% CI [-8.06; -0.10]) one year after the lockdown. We identified four residential context classes, with differences across classes in proximity to nature, type of residence (e.g., apartment, house), and level of neighborhood deprivation. No association was found between residential context during the lockdown and adolescent mental well-being one year later.

Conclusions: An unsupportive social environment during the lockdown may have long-term effects on mental well-being among adolescents. Given the observed disparities in social support, future intervention should aim to strengthen social support for adolescents living in unsupportive environments (e.g., remote homework assistance, support for isolated parents, provision of virtual chat rooms for adolescents).

Key messages:

- Mental well-being was challenged among youth with lower levels of social connectedness and support during lockdown, residential context was not associated with adolescent well-being after one year.
- During crisis, a critical need among adolescents does not pertain to the physical attributes of their living environment, but rather to social support from friends or family within and outside home.

Abstract citation ID: ckae144.2202
How to improve the inclusion of the elderly in the local community for better mental health?

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Issue/problem: Social exclusion, ageism and low health/digital literacy intertwine with growing trends in mental disorders, including abuse in Slovenian elderly. To cope with these issues, besides rising competencies, there is a need for stable and continuous partnerships of all relevant stakeholders in the local communities.

Description of the problem: Despite previous efforts of the Interdisciplinary Working Group (IWG) for mental health promotion in the elderly (established according to the Resolution of the National Mental Health Program, 2018-2028), there was a need for reconsidering approaches in the next Action plan (2024-2028). A national conference on decreasing social exclusion in the elderly contributed as a road map.

Results: Previous activities (events in the local communities, supported materials) were upgraded with a broad destigmatization campaign, (recruitment of the >>ambassadors<<) and collection of culturally adapted good practices. Better availability of information through >>info-spots<< and easier participation of the elderly in cultural events was enabled. Activities of the reinforced IWG were promoted.

Lessons: Empowerment of key actors and their continuous cooperation could improve information flow, competencies, the inclusion of the elderly in the local community, and decrease ageism and discrimination. Developing local strategies with the crucial involvement of elderly representatives is the opportunity for more intensive and better cooperation between local policy/stakeholders, public health experts, and the target population. Regular financial support will prevent additional inequities.

Key messages:

- The empowered, connected, and proactive community is key to preventing the elderly's exclusion.
- Approaches should be fresh, accessible, and tailored to the heterogeneous population.

Abstract citation ID: ckae144.2203
Involuntary singlehood, gender equality and mental health in contemporary Sweden

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In recent years, acts of violence against women have been tied to online communities of men who self-identify as involuntary celibates or 'incels'. These men experience an inability to enter intimate relationships with women, attributing the issue to a gynocentric order in which women hold power and men are victims. This is while evidence suggests that in contemporary societies at large, growing numbers of men live without, or face difficulties in forming, intimate relationships with women, and while many men in Sweden, particularly young ones, report loneliness. At the same time, in Sweden we see a growing polarization between men and women regarding views on gender equality, especially among youth, as young men express gender conservative values and the notion that feminism is to blame for some men's feelings of societal marginalization. Increased knowledge about these issues, and how they may be connected, is of strong importance for public mental health. In an ongoing research project, we take the incels phenomenon as our starting-point and as one area of attention, while also directing focus toward involuntary singlehood and celibacy among men and women in Sweden more broadly. The latter is investigated through a survey, which is the focus of this presentation. The survey explores the prevalence of short- and long-term experiences of involuntary singlehood and celibacy among men and women in the general population ($n = 5000$), and how such experiences are made sense of. Any correlations between such experiences and self-rated mental health and satisfaction with life, and attitudes towards gender equality and violence against women, are investigated, including any noteworthy differences along lines of gender, age and socioeconomic background. Experienced loneliness, irrespective of relationship status, is also assessed. The presentation will discuss preliminary results of the survey study and discuss their implications for public mental health.

Key messages:

- Involuntary singlehood among men is a public health issue warranting further investigation.
- Correlations between involuntary singlehood and mental health as well as attitudes towards gender equality will be discussed.

Abstract citation ID: ckae144.2204
Determining the trauma levels of individuals living in temporary housing after an earthquake

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Background: Earthquakes cause many deaths and injuries in the region in which they occur. In addition, earthquakes can lead to significant mental health among survivors living in affected areas. The aim of this study is to determine the trauma levels of people living in temporary housing after an earthquake.

Methods: This descriptive cross-sectional study was conducted between September and December 2023. The target population consisted of people living in temporary housing, with a sample size of 260 people. Data were collected from a questionnairerelated to sociodemographic and earthquake experience status as well as the Post-Earthquake Trauma Level Determining Scale (PETS). The dependent variable in this study was the total PETS score, and the independent variables included age, being trapped under debris, and experiencing the loss of a loved one. The Student's t-test and a one-way ANOVA were used in the statistical analyses.

Results: In the research group, 35.4% of the participants reported a job loss and 34.2% reported the loss of relatives. The mean total

PETS score was 56.13±16.87. The total scores of individuals who were trapped under debris, lost first-degree relatives, and lost their jobs were significantly higher than others ($p < 0.05$). In addition, individuals whose houses were destroyed due to the earthquake had significantly higher total PETS scores ($p < 0.05$). Of the individuals who participated in the study, 88.8% stated that they did not receive psychosocial support after the earthquake.

Conclusions: In the study group, trauma levels were higher among individuals who experienced the loss of a home, job, family members, and relatives due to the earthquake. Alarmingly, more than three-quarters of the participants did not receive psychosocial support after the earthquake.

Key messages:

- All individuals housed in temporary settlements after an earthquake should be evaluated in terms of trauma, and psychosocial support should be provided according to risk groups.
- The trauma experienced by individuals who lost their homes and jobs after the earthquake should be reduced by making plans such as providing shelter and job opportunities as soon as possible.

Abstract citation ID: ckae144.2205
Modification in Quality of Life and Health in Medical Students across Graduation

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Background: Medical students experience numerous demands during the education process, determining their quality of life (QoL) and health status. POLLEK study aims to identify and evaluate the quality of life by simultaneously assessing their determinants in Polish medical students during long-term observation. We have also examined the prevalence of chronic diseases, specifically focusing on overweight and obesity, and identified their risk factors.

Methods: The POLLEK is the follow-up cohort study conducted among medical students at the Medical University of Silesia in Katowice. Students were followed during two observation periods: in their first year of studies, the academic year 2021/2022 (T1), and in their second year, the academic year 2022/2023 (T2).

Results: The total number of participants in the first year of observation (T1) was 427 while in the second year (T2) was 335. We identified that the QoL score significantly decreased in their second year of studies mainly in the somatic and psychological domain. The determinants of QoL domains common to T1 and T2 remained self-declared health status, frequency of physical activity, and current financial situation. In the initial year of evaluation, 56 students (13.10%) were overweight or obese, and 52 (15.8%) in the second. Regardless of the academic year, the increased risk of being overweight or obese was significantly associated with dissatisfaction with personal health, financial deficiencies, and a diet abundant in animal products.

Conclusions: The QoL of medical students and selected indicators of their health status deteriorated during the observation period. Our findings suggest that medical schools should actively promote the activity needed to achieve a balance between schoolwork and the personal life of medical students from the beginning of university study.

Key messages:

- Medical students experience numerous demands during the education process, determining their quality of life (QoL) and health status.
- Medical schools should actively promote the activity needed to achieve a balance between schoolwork and the personal life of medical students from the beginning of university study.

Abstract citation ID: ckae144.2206
Sociodemographic disparities in depression and anxiety symptom severity among young adults in Sweden

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Background: Young adults are disproportionately affected by mental health problems such as depression and anxiety. While previous studies have identified sociodemographic predictors using the four-item Patient Health Questionnaire (PHQ-4), differences in symptom severity remain less explored. This study aimed to evaluate the sociodemographic predictors of different levels of depression and anxiety symptoms among young adults in Sweden.

Methods: Survey data from a population-based sample of Swedish adults aged 20-21 ($n = 3,226$) was used. Symptom severity was categorized into three levels: normal/mild, moderate, and severe, based on established cutoff scores on the PHQ-4. Gender, parental education and birth country, and upper secondary education were assessed through linked registry information. Multinomial logistic regression was used.

Results: Females had a higher risk of moderate (RR = 1.8, 95% CI 1.5, 2.2) and severe (RR = 2.3, 95% CI 1.8, 3.1) symptoms (compared to no or mild symptoms) relative to males. Among males, the risk of moderate symptoms was higher without a secondary degree (RR = 1.9, 95% CI 1.0, 3.4) compared to an academic degree. Males with parents born abroad faced elevated risks of moderate (RR = 1.9, 95% CI 1.3, 2.9) and severe (RR = 2.2, 95% CI 1.3, 3.7) symptoms relative to males with Swedish-born parents. Among females, parental tertiary education was associated with a lower risk of moderate symptoms (RR = 0.7, 95% CI 0.5, 0.9) compared to lower education. Further, females having a vocational (RR = 1.5, 95% CI 1.1, 2.1) or no secondary degree (RR = 3.6, 95% CI 2.1, 6.1) had an increased risk of severe symptoms compared to females with an academic degree.

Conclusions: This study identified sociodemographic predictors for moderate and severe symptoms of depression and anxiety among young men and women in Sweden. Mental health promotion and prevention should specifically target young adults at elevated risk of experiencing moderate to severe symptoms.

Key messages:

- Understanding sociodemographic predictors of depression and anxiety symptoms in young adulthood is essential for public health work.
- Mental health promotion and prevention needs to include appropriate interventions for young men and women from diverse socioeconomic and cultural backgrounds.

Abstract citation ID: ckae144.2207
The UFair-Questionnaire: Perceived university fairness and its association with mental health

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Introduction: University students face different stressors that might jeopardise their mental health. Hitherto, mainly general stress perceptions were assessed, which appeared inappropriate to indicate stress directly linked to the university or for deriving specific preventative measures. The aim of this study was to adapt the concept of organisational justice to universities, develop and validate a corresponding questionnaire (UFair: University Fairness Questionnaire), and estimate its association with mental health.

Methods: In total, 1,105 students (average age: 25.5 years [SD: 5.43]; female: 50.1%; university: 67.2%, university of applied sciences: 32.8%) were surveyed online. Perceived unfairness at the university was measured using the newly developed 20 item UFair Questionnaire. Mental health was measured using the Patient Health Questionnaire (PHQ-8, depression) and Maslach Burnout Inventory for Students (MBI-SS, burnout). Linear regression models estimated the adjusted (age, gender, type of university, lifestyle factors) relationship between perceived university injustice and mental health indicators.

Results: The UFair questionnaire showed good psychometric properties (Cronbach's alpha = .960) and a unidimensional factor structure. There was a considerable association with depression (beta = .485; $p < .001$; R2 = .261) and burnout (beta = .481; $p < .001$; R2 = .250).

Conclusions: Perceived injustice represents not only a stressor at the workplace but also in the university setting, showing a considerable relationship with students' mental health. University justice includes the perception of organisational aspects, the treatment of students, and consideration of the individual situation of students. The relevance of these aspects to the health of students should be recognised and taken into account by universities. The valid measurement by the UFair Questionnaire represents the basis for possible preventive approaches and interventions.

Key messages:

- Organisational injustice exists not only in the workplace but also among students in the university setting.
- Perceived unfairness among students is associated with depression and burnout.

Abstract citation ID: ckae144.2208
Rising Mental Health Issues from Remote Work Challenges in South Korea Amid COVID-19

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The COVID-19 pandemic significantly increased remote work, raising concerns about its impact on mental health. This study assessed the relationship between the challenges of remote work during the pandemic and mental health outcomes such as anxiety, depression, and sleep disorders. An online survey was conducted among South Korean adults, with data from 507 participants analyzed using the Generalized Anxiety Disorder 7-Item Scale (GAD-7), the Patient Health Questionnaire-9 (PHQ-9), and the Insomnia Severity Index (ISI). Results indicated that participants in the 'difficult' remote work category experienced higher rates of anxiety (26.6%), sleep disorders (37.3%), and depressive symptoms (38.4%) compared to the 'non-difficult' category (14.1% anxiety, 24.8% sleep disorder, and 24.8% depressive symptoms), with all differences statistically significant ($p \leq 0.005$). Logistic regression models adjusted for demographics and socio-economic factors revealed increased odds of mental health issues in the 'difficult' group (ORs ranging from 2.241 to 3.210). Sub-group analysis highlighted significant disparities, particularly among blue-collar workers and men. The findings underscore the need for organizational strategies to mitigate the mental health challenges of remote work. Interventions should include improving technological infrastructure, enhancing workspace ergonomics, and fostering robust communication channels to replace in-person interactions. Additionally, policies should address the differential impacts observed between genders and industries, tailoring support to diverse needs. On a personal level, promoting regular indoor exercise could help workers manage stress and enhance their well-being in remote work settings. This study calls for a comprehensive approach to managing the complex impacts of remote work on mental health.

Key messages:

- This study calls for a comprehensive approach to managing the complex impacts of remote work on mental health.
- The findings underscore the need for organizational strategies to mitigate the mental health challenges of remote work.

Abstract citation ID: ckae144.2209
Dose-response associations between physical activity and mental health among USA adolescents

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Background: Adolescent mental health is a critical public health concern. Physical activity has been shown to reduce risk of negative mental health outcomes. However, in adolescents little is known about the dose-response nature of this relationship. This study aims to fill this gap by examining the association between varying levels of self-reported physical activity and the odds of reporting depressive symptoms and poor mental health, among US high school students.

Methods: This is a cross-sectional study using data from the 2021 Youth Risk Behavior Survey. Physical activity exposure was assessed as students' self-reported weekly frequency of $\geq$ 60min moderate-to-vigorous physical activity (MVPA), as well as frequency of participation in muscle-strengthening activities, sports teams, and physical education (PE) classes. For the dose-response analysis three categories were created for each item. Depressive symptoms and poor mental health were measured using established survey items. Multivariate logistic regression risk models were used.

Results: A total of 8,015 high-school students were included. Depressive symptoms were reported by 43% of students, and 28% reported poor mental health. Moderate doses (1-4 days) of muscle-strengthening activities reduced the odds of depressive symptoms by 23% and the odds of poor mental health by 38% compared to low doses (0 days). Higher reductions were observed for higher doses (5-7 days). Similar results were observed for sports teams (1 vs 0 teams). Moderate doses (1-4 days) of MVPA $\geq$60min showed a significant reduction in the odds for poor mental health (38%) but not depressive symptoms compared to low doses (0 days). No effect was observed for any dose of PE attendance.

Conclusions: The findings suggest a dose-response pattern in the association between physical activity and mental health in adolescents. Any increase in physical activity levels among young adults would be valuable in preventing poor mental health.

Key messages:

- A dose-response pattern was observed between self-reported mental health and physical activity exposure in adolescents.
- Moderate levels of physical activity significantly reduced the risk of self-reported poor mental health among adolescents.

Abstract citation ID: ckae144.2210
Barriers and facilitators for implementing ABCs for Mental Wellbeing intervention model in Finland

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Background: The ABCs for Mental Wellbeing study aims to improve mental health and wellbeing by adopting, implementing and evaluating a universal, community-based mental health promotion intervention model in Finland. The study gathers information and experiences of the implementation processes, identifies barriers and facilitators, and best practices for the implementation, and the feasibility and contextual adaptability of the intervention in different settings and specific target groups.

Methods: The implementation took place in four municipality community settings. In total, 40 participants attended the ABC activities. The study employs a mixed methods approach to look at the implementation processes: a quantitative survey before and after the implementation, and qualitative interviews with the employees implementing the model and the participants involved with the ABC activities.

Results: Based on qualitative analysis, the most identified facilitator is management support alongside the competencies of professionals. The observed effects of group activities aligned with the ABC model on mental wellbeing show that participants not only experienced the benefits of model-compliant activities on their mental wellbeing but also increased their awareness of factors influencing their mental wellbeing. The results of the quantitative analysis will be ready during the spring.

Conclusions: The study offers fresh insights into the obstacles and enablers affecting the implementation of a mental health promotion intervention model. The best practice strategies and guidelines identified are being shared both nationally and internationally and utilised to enhance future programme implementation and adaptation of these practices in various settings.

Key messages:

- Best practice strategies and guidelines for successful implementation of mental health promotion identified.
- The ABCs for Mental Wellbeing increased participants' awareness of the factors influencing their mental wellbeing.

Abstract citation ID: ckae144.2211
Multidimensional assessment and analysis of the mental health of teachers and police officers

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Background: The years-long COVID-19 pandemic, the proximity of the Russian-Ukrainian war, high inflation, and the economic recession are significant stressors for the Hungarian people. Numerous domestic and international surveys are prepared every year, in which the most stressful professions are ranked. In recent years, based on Hungarian, American and European surveys, teachers and police officers have always been included in the 10 most stressful jobs. They also rank the most valued jobs and highest paid jobs every year. In this relation, police and teaching jobs never made it into the top 10, despite the fact that both professions are very important on a social level.

Methods: 20 male and 20 female teachers and police officers completed a complex quality of life and psychological assessment using international tests with ethics approval. We measured pain syndromes, such as headache, neck and back pain, joint pain, assessed depression, anxiety, sleep quality, and gastrointestinal symptoms.

Results: For police officers and teachers, gender differences were not verified with regard to any parameter. None of the parameters differed significantly for male police officers and teachers. Many significant differences were confirmed between female police officers and female teachers, in all of them the results of the teachers were worse: depression (9,4±10,3 vs 2,9±4,3; $p = 0.02$) anxiety(43,3±12,2 vs 33±4,6; $p = 0.01$), sleep disorders(32,7±8,2 vs 24,3±7,8; $p = 0.01$), gastrointestinal complaints(24,7±9,4 vs 17,6±2,3; $p = 0.01$).

Conclusions: The sleep quality, depression and anxiety levels of female teachers are worse than those of female police officers who live at least as stressful a life. There is no difference between the mental and psychological state of male teachers and police officers. It is important to pay attention to the mental support of female teachers.

Key messages:

- We consider the assessment of the mental state of police officers and teachers and the creation of primary prevention programs and a mental support network to be an important public health task.
- In particular, the mental state of female teachers should be monitored and supported.

Abstract citation ID: ckae144.2212
Exploring the Psychosocial Impact of Hospitalization for COVID-19: Insights from Patient Experiences

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Background: The COVID-19 pandemic has severely tested the organizational structure and operational effectiveness of healthcare systems. We aimed to explore the experiences of patients who have been hospitalized due to COVID-19.

Methods: Employing purposive sampling, semi-structured interviews were conducted covering eight topics: 1) the experience of COVID-19 diagnosis, 2) the most difficult moments during hospitalization, 3) difficulties related to hospital conditions and safety protocols, 4) interactions with healthcare professionals, 5) received support, 6) social stigma, 7) concerns about the future, and 8) post-COVID and long COVID syndrome. Twelve individuals (six women and six men; mean age 57.5 (SD = 13) years; mean length of stay 18.1 (SD = 3.1) days) participated. The data analysis was carried out using the phenomenological method according to Colaizzi.

Results: Patients reported a spectrum of emotions including loneliness, isolation, abandonment, disappointment, insecurity and fear of death. Interactions with healthcare professionals revealed a dichotomy: experiences of respectful, reassuring care contrasted with encounters lacking psycho-emotional support within an impersonal healthcare setting.

Conclusions: This study sheds light on the experiences of patients on the nursing wards and their psychosocial burden. Most of them reported negative emotions such as loneliness, isolation, sadness, fear and anxiety rather than positive experiences such as hope, interpersonal connectedness, self-identity, empathy, caring and safety.

Key messages:

- The study highlights psychosocial challenges for COVID-19 patients, emphasizing the urgent need for robust support systems.

- The study provides insights for future similar situations and highlights the need for adaptable care models based on principles such as empathy, safety and personalized approaches.

Abstract citation ID: ckae144.2213
Implementing mental health quality practices for vulnerable populations in five EU countries

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Issue: Mental ill-health has been a leading cause of disability in Europe for many years, with the COVID-19 pandemic increasing incidences of both poor mental health and mental disorders. Vulnerable groups such as children, migrants, individuals with existing mental health issues, and healthcare workers are particularly affected but often lack tailored mental health support.

Description of the problem: The MENTALITY project aims to alleviate mental health distress worsened by the COVID-19 pandemic focusing on vulnerable groups. It also involves developing capacity-building tools and disseminating research results to increase awareness and knowledge sharing. Five EU countries are currently piloting four distinct good practices to address mental health issues among vulnerable populations. Specifically, Poland is aiming to support migrants (including Ukrainian and Spanish-speaking populations), Latvia is focusing on the healthcare workforce, and Romania and Slovakia are concentrating on users and community services. Meanwhile, Greece and Slovakia are implementing initiatives for children. The implementation phase began in January 2024 with a duration of 6 months.

Results: By consulting with relevant stakeholders, a Situation Analysis and Needs Assessment framework has been conducted, allowing for informed decisions regarding the elements to be pilot. Partners have developed country specific piloting plans and external evaluators are leading a common framework for monitoring and evaluation, ensuring regular assessment of the project's progress.

Lessons: The innovative MENTALITY project aspires to enhance community-based mental health systems and promote improved mental health services across EU Member States during crises by adopting a preventative approach. Preliminary results show that the initiatives within the project were much needed and have already begun to demonstrate promising outcomes in addressing mental health challenges at both individual and community levels.

Key messages:

- The MENTALITY project aims to address mental health distress of vulnerable populations in times of crisis.
- The project seeks to advance equality in health and social rights for all individuals living in the EU.

Abstract citation ID: ckae144.2214
Examining the Relationship Between Socio-Demographic Variables and Eco-Anxiety A Systematic Review

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Background: Eco-anxiety is a rising concern among young people, characterized by persistent feelings of fear, helplessness, and despair stemming from the looming and uncertain threats of climate change. Understanding how socioeconomic status and demographic factors influence the development of eco-anxiety is crucial in addressing this issue. This study aimed to analyze the literature to elucidate this relationship and its public health implications.

Methods: We conducted a systematic literature review using PubMed, Scopus, Web of Science, and APA PsycInfo databases. A total of 1,170 articles were initially retrieved, with 10 meeting the inclusion criteria. Quality assessment was performed using the AXIS Tool modification for cross-sectional studies. Data extraction was systematically carried out to analyze the relationship between socioeconomic and demographic determinants and young people's emotional responses to climate change.

Results: Preliminary findings indicated that various socioeconomic and demographic factors influence young people's emotional responses to climate change. Family stressors, economic instability, cultural beliefs, and social influences were identified as significant determinants, contributing to eco-anxiety, ecological distress, and climate change grief among youth.

Conclusions: The study underscores the importance of considering socioeconomic and demographic factors in addressing eco-anxiety among young people. By recognizing these influences, policymakers, educators, and mental health professionals can develop tailored interventions to mitigate the adverse effects of eco-anxiety. Public health actions may include enhancing mental health services, implementing educational programs, and addressing social determinants of health to alleviate eco-anxiety and promote resilience among youth facing climate-related challenges. This review is produced as part of the PRIN P2022JJ3LB project, funded by the Italian Ministry of University and Research.

Key messages:

- Socioeconomic and demographic factors significantly influence young people's emotional responses to climate change, including the development of eco-anxiety and ecological distress.
- Understanding family stressors, economic instability, and social influences is crucial for tailored interventions for youth.

Abstract citation ID: ckae144.2215
Past trends and future projections of psychological distress among general population in Finland

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Introduction: The aim was to examine past and future trends of psychological distress in Finland from 2013 to 2040.

Methods: Six representative cross-sectional surveys from the years 2013, 2014, 2015, 2018, 2020, and 2022 ($N = 172{,}547$, aged 20+ y) were used. Multiple imputation was used in projecting psychological distress (MHI-5, with cut-off value ≤ 60). As the COVID-19 pandemic had a strong effect on psychological distress which persisted after the pandemic, projections were made with and without data from the years 2020 and 2022.

Results: The prevalence of psychological distress was slightly declining during the period 2013-2018 for both men and women, ending up around 18% for men and 19% for women. When including the years 2020 and 2022, however, trends showed a steep increase in the prevalence of psychological distress during 2018-2022. Among 20-39-year-olds, the prevalence of psychological distress increased 9.8%-points over the four-year period. Similarly, among 40-54-year-olds, an 8.2%-points increase was observed. In older age groups (55-64, 65-74 and 75 years and older) psychological distress first increased from 2018 to 2020 but then plateaued especially among the oldest. Projections based on the observed past trends during the period 2013-2018 showed a steady decline in psychological distress, the prevalence of psychological distress ending up around 11% for men and around 15% for women in 2040. When including the years 2020 and 2022, however, the projections suggested an increase in psychological distress in the general population and the prevalence of psychological distress is projected to end up around 37 % for both men and women in 2030.

Conclusions: The prevalence of psychological distress has increased substantially in the 2020s particularly in young adults. Mental health needs to be given a priority in all policies in order to change the future projections.

Key messages:

- The upward trend of psychological distress did not reverse or plateau after COVID-19 pandemic in Finland.
- Increased efforts to protect and promote mental health in all policies seem indicated especially among young adults.

Abstract citation ID: ckae144.2216
Self-harming behaviours and social support among a sample of young men in Belfast, Northern Ireland

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Background: Psychiatric morbidity is substantially higher in Northern Ireland (NI) than in peer nations and men are disproportionately represented in suicide mortality data, particularly at early adulthood and middle age. To better scale interventions to reduce morbidity and mortality among young men, a mixed-methods study was conducted combining interviews and validated quantitative tools.

Methods: A non-random community sample of 30 working-class young men in Belfast aged 16-19 was recruited via organisations focused on job training, restorative justice, and youth work. Participants completed the Self-Harm Inventory and a semi-structured interview. Analyses were completed in NVivo and RStudio.

Results: The prevalence of self-harm was more than 8 times higher than for the general population of adolescents in NI, with 83.3% reporting ever engaging in self-harm. Only 2 of the 28 participants reported making a suicide attempt and most injuries were minor, suggesting nonsuicidal self-injury (NSSI) represented almost all injuries. Although the sample had a higher risk profile than the general population-with high levels of trauma, substance use, and socioeconomic deprivation-participants also endorsed strong social connections to friends, family, and community. While many expressed concerns about sharing their own emotional distress, almost all reported that disclosures are important to avert poor mental health and shared times when they or friends sought support.

Conclusions: Although there was a high prevalence of NSSI in the sample, the low prevalence of suicide attempts may be associated with the high levels of protective social connections reported by participants. Gender-based concerns regarding emotional support were common, but there was also strong endorsement for the importance of seeking support from trusted relationships. This suggests that there may be an appetite for male role models to provide education around the "bravery" of help-seeking.

Key messages:

- Prevalence of nonsuicidal self-injury may be substantially more elevated in some populations of adolescent males.
- Gender-based concerns continue to act as a barrier to young men sharing their emotional distress with trusted individuals.

Abstract citation ID: ckae144.2217
Evaluation of specific offers for mothers with mental stress

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Background: As part of the Austrian early intervention programme 'Frühe Hilfen', specific interventions (a psychotherapeutic short-term intervention and a therapeutic group) were implemented in some regions. An evaluation was carried out to gain general insights into the need for and benefits of psychosocial services as well as in-depth information on the benefits of the two selected services. The results of the project should also enable further conclusions/recommendations for appropriate services.

Methods: Mixed-methods approach: qualitative (focus groups, individual interviews, online surveys, participant observation) and quantitative (screening questionnaires) instruments involving a large number of relevant stakeholders and actors. Data analysis: content-structuring qualitative content analysis according to Kuckartz; descriptive analysis of the screening questionnaires.

Results: The analysis revealed a great need for specific psychosocial services for this target group as well as a high level of satisfaction with the psychosocial services utilised. However, all respondents pointed out barriers to the utilisation of psychosocial services. The evaluation results show that the two specific services make an important contribution to improving the well-being of mothers with mental health problems. Both services largely reach their target group well and, thanks to their focus, contribute to the well-being of mothers with mental health problems. The effectiveness of the service is underpinned by the fact that all participants perceive a reduction in mental stress and notice a reduction in stress during the screenings.

Conclusions: Based on the evaluation results, it is generally recommended that low-threshold, free and needs-based services be established or expanded. In addition, there is a need for more educational and public relations work on psychosocial stress/diseases and more information on support services.

Key messages:

- There is a great need for psychosocial support among mothers.
- The high level of satisfaction with the services evaluated indicates that more such services are needed to support families.

Abstract citation ID: ckae144.2218
Covid-19 and mental health hospitalizations in Italy. Results from a multicenter longitudinal cohort

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Background: The impact of Covid-19 pandemic on mental health (MH) is still being assessed. The aim of this study was to evaluate the impact of Covid-19 on ordinary hospital admissions for psychiatric disorders in Italy.

Methods: The multicenter project "Covid-19 and mental health" (CoMeH), coordinated by the National Institute for Health, Migration and Poverty, enrolled an open cohort of subjects resident in three large areas of Italy (2018-2021) aged 10 + (N = 5,159,363), and followed-up until 2021. The study outcome was the first ordinary admission with a psychiatric disorder as main diagnosis (FMHA). Citizenship and deprivation level (DL) are the socioeconomic factor considered. Different groups of diagnosis were used to characterize the hospitalizations. The impact of Covid-19 on FMHAs was evaluated by interrupted time series (ITS) analysis, pre (until February 2020) and post (from March 2020) the outbreak of pandemic, using a step-change model.

Results: 11,171 FMHAs were observed. Patients hospitalized with a MH diagnosis were younger compared to the study population; the distributions by sex, deprivation level and citizenship were similar. A decrease of incidence of FMHAs was found after the outbreak of the pandemic, overall and for all group of diagnoses, except for post-traumatic stress disorders (PTSD). A reduction in adjusted FMHA rates after the onset of Covid-19 (RR 0.80[0.72-0.90]) were observed through multivariate ITS. The oldest patients had the lowest probabilities of FMHAs in pre Covid-19 and experienced the highest reduction in post-Covid19. PTSD presented trend in countertendency compared with the other diagnosis, with an immediate effect of Covid-19 increasing FMHAs (+97%), followed by a post-outbreak return to the pre-pandemic levels, below the counterfactual line.

Conclusions: Covid-19 pandemic determined a general reduction of admissions for psychiatric disorders. A significant impact was observed among the eldest (decrease) and for PTSD (increase).

Key messages:
- Covid-19 pandemic determined a reduction of admissions for psychiatric disorders.
- Older people were mostly affected. No significant socioeconomic impact was observed.

Abstract citation ID: ckae144.2219
Trends and gender differentials in age-specific suicide mortality, 2004-2020, Cyprus

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Background: Cyprus is rarely included in international studies of suicide trends and the only published national data is two decades old. In the context of the first National Strategy for Mental Health, this study assessed suicide trends in 2004-2020, spanning the 2008 global and 2012-2013 Cyprus financial recessions, but falling short of the COVID-19 pandemic due to delays in recording.

Methods: Suicide deaths were obtained from the Mortality Registry (ICD-10, including "undetermined"). Directly standardized rates were calculated for four gender/age groups. Annual change was estimated in Poisson regression models with interaction terms to assess differential trends over time periods.

Results: There were 560 deaths (4-times more in men, >80% classified as 'violent' in both genders). In men, the suicide rate doubled from 4-5 to 9-10 per 100000, with most of the increase prior to 2012, representing 9% annual change (Rate Ratio 1.09, 95% CI 1.03, 1.15; p = 0.002). From 2013, the trend reversed (effect modification p-value < 0.001) with 4% annual decrease (95% CI -9%, 1%). Declines were not uniform across age-groups; rates in males aged 45-64 continued to rise, surpassing the previously high rate in males 25-44. In women, rates presented a declining trajectory from 4-5 per 100000 to 2-3 over this period, widening the gender differential. M-to-F ratio was 5.33 (95% CI 3.46, 8.19) in 2017-2020 compared to 2.73 (1.88, 3.95) in 2004-2008. A shift to violent methods was observed, with hanging now ranking as most common in both females (1 in 3) and males (1 in 2).

Conclusions: While relatively lower compared to other European countries, the gender differential in suicide mortality has widened in Cyprus, with steep rises in all male age-groups up to 2012 and continuing rises in males 45-64, but declines in female rates over the same period. Further analysis of trends in relation to unemployment and other socio-economic indicators is warranted as well as continuous monitoring of trends.

Key messages:
- After steep rises in suicide across all male age-groups up to 2012, against a declining trajectory in female rates, rates in males 45-64 continued to rise, further widening the gender differential.
- The age profiling and shift towards more violent methods in both genders should inform the first National Strategy for Mental Health, while continuous monitoring of trends is warranted.

Abstract citation ID: ckae144.2220
Prevalence and social determinants of anxiety and depression among adults in Ghana systematic review

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Background: Anxiety and depression are major public health concerns, yet their prevalence and social determinants contributing to mental health disparities remain underexplored. This review, to our knowledge, is the first of its kind, aiming to examine the prevalence of anxiety and depression symptoms and disorders among adults in Ghana, along with social determinants associated with their occurrence.

Methods: A search of nine electronic databases and seven grey literature sources was conducted up to September 25, 2023. Two reviewers independently screened and appraised the studies. Forty-six studies were included. Prevalence estimates were pooled using a random-effects model. Subgroup analysis and meta-regression explored potential moderators. A narrative synthesis explored social determinants associated with anxiety and depression.

Results: Preliminary results showed a high prevalence of anxiety (43.7%, 95% CI: 35.6-54.4%) and depression (37.8%, 95% CI; 32.5% to 46%), with regional variations. There were significant differences in the prevalence of anxiety and depression across chronic physical conditions and method of condition assessment. Meta-regression showed significant association between average age and anxiety prevalence. Social determinants associated with anxiety included being female, non-Christian, low income, self-employed, limited social support, and basic education, while that for depression included being young (< 25yr), low income, government employed, childhood physical and sexual abuse, gender-based violence and urban residence. Protective factors for both were male gender, strong social support and higher education.

Conclusions: Preliminary results indicate a high prevalence of anxiety and depression linked to social determinants. While methodological limitations exist (eg, study heterogeneity), findings highlight a need for evidence-based interventions targeting social determinants to reduce the burden of anxiety and depression among adults in Ghana.

Key messages:

- Our review suggests addressing the social determinants of mental health, aligned with sustainable developmental goals, may reduce the burden of anxiety and depression.
- While Ghana is working towards improving mental health via its revised 12year Mental Health Policy launched in 2021, this review can facilitate planning and resource allocation for mental healthcare.

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Content validation of a test battery for assessing sleep quality in adolescents in Slovenia

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Background: Sleep constitutes a fundamental biological necessity, occupying approximately one-third of our lifespan. Consequently, the field of sleep research has experienced an increase in interest, prompted by the recognition of insufficient sleep as a significant public health challenge. As the majority of existing questionnaires in Slovenia have yet to undergo official translation and validation processes, the aim of our study was to conduct content validation of a questionnaire designed to assess the sleep quality among adolescents.

Methods: We developed a test battery for assessing the sleep quality of adolescents by combining a diverse array of questionnaires. We employed the Adolescent Sleep-Wake Scale, Pediatric Daytime Sleepiness Scale, Epworth Sleepiness Scale for Children and Adolescents, and Children's Morningness-Eveningness Scale. Following the development of the entire test battery, a process of back-translation from English to Slovene occurred, followed by cultural adaptation.

Results: The designed questionnaire underwent content validation by a panel of 10 experts drawn from diverse disciplines. Evaluation of questionnaire items followed a planned methodology tailored for the content validation of measurement instruments, focusing on content relevance, clarity, and classification into subscales or factors. Our analysis revealed that the individual questionnaires demonstrate content validity, supported by notably high indices of content validity.

Conclusions: Translated questionnaires demonstrate decent content validity, thus rendering them valid clinical and research tools for assessing sleep quality in adolescents in Slovenia.

Key messages:

- Our research indicates the availability of content-valid tools for sleep research.
- Further investigation is needed to determine the reliability, specificity, sensitivity, and appropriateness of the factorial structure of measures for the quality of sleep.

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Navigating Crisis: Resilience and Mental Well-being in Post-COVID Cyprus Students

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Background: The mental health of university students is identified as a major challenge in public health, exacerbated by the COVID-19 pandemic. The pandemic and its aftermath have brought forth several stresses, which have had a substantial influence on university students' mental health. Understanding how resilience, which is crucial in coping with adversity, influences students' responses to these difficult circumstances is critical.

Objectives: This study aims to examine the relationship between resilience and mental health outcomes among university students in the Republic of Cyprus after the COVID-19 pandemic.

Methods: Using a parallel embedded mixed methods approach, resilience was measured using the Conner-Davidson Resilience Scale (CD-RISC) while mental health outcomes were assessed using the Symptom Checklist 90-Revised (SCL 90-R) among a preliminary sample of 470 students. The association between the two was assessed by linear regression analysis, adjusting for potential confounders, and also stratifying by gender.

Results: Preliminary findings from this ongoing study revealed a significant inverse relationship between resilience and mental health (beta= -0.58, 95% CI -0.88, -0.29), regardless of gender, age, or socioeconomic status. Stratifying by gender revealed for males, the association between resilience and mental health is (beta= -0.50, 95% CI -0.98, -0.32), whereas for females, it is (beta= -0.63, 95% CI -1.04, -0.22). In short, the influence of resilience on protecting mental health appears to be slightly more prominent in women than in males.

Discussion: This study enriches our understanding of the intricate interplay between the COVID-19 pandemic, resilience, and mental health outcomes among university students. By prioritizing the psychological well-being of this population group, our findings resonate with the World Health Organization's advocacy for heightened mental health awareness during crises.

Key messages:

- Prevalence of mental health issues post pandemic era among university students.
- Resilience as a buffer for mental health crisis in young adults.

Abstract citation ID: ckae144.2223

Needs assessment to design a multidisciplinary training programme within the EU-PROMENS project

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Background: Mental health as a public health issue warrants a comprehensive prevention-oriented approach whereby capacity building as well as a multisectoral and life-course approach are crucial. The 'Capacity-building on mental health: multidisciplinary training programme and exchange programme for health professionals,' project enhances and improves the capacity of professionals across Europe in the field of mental health. Various professionals are targeted 1) health professionals working in the mental health sector, 2) teachers and educators working in the educational setting, 3) social workers working in various community settings and 4) prison staff.

Objectives: To understand the needs, gaps, obstacles in capacities, competencies, and to build upon existing programmes a mixed methods study, adopting a convergent parallel design is conducted to design and develop the programme. First, a literature review is conducted complemented with interviews, focus group discussions and a survey among various stakeholders to enrich the data. The training will be piloted in The Netherlands, Spain, Czech Republic, Croatia, Finland and Austria. Thereafter it will be rolled out in the 21 remaining EU countries as well as in Norway, Iceland and Ukraine.

Results: Various gaps and competencies identified from different perspectives build a solid fundament for a comprehensive multidisciplinary training programme tailored to the needs of various professionals within the mental health arena. Preliminary results show that 98 multidisciplinary training programmes exist, with about half containing training materials and limited reports on evaluation.

Conclusions: The comprehensive needs assessment will assure a multidisciplinary training programme is suitable and relevant for various professionals to ensure a well-designed capacity-building programme.

Key messages:

- Various gaps and needs among various professionals exist.
- A comprehensive study strengthens alignment of training to needs and gaps among various professionals.

Abstract citation ID: ckae144.2224
Suicide in young and middle-aged individuals: lessons from a psychosocial autopsy study

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Background: Sociodemographic characteristics of suicides are available from Statistics Netherlands. To improve suicide prevention, it is not only necessary to know who dies but also why people die. A psychosocial autopsy was conducted in the Netherlands to investigate differences in psychosocial characteristics and precipitating factors of suicides of young (<30) and middle-aged (40-70) suicide decedents.

Methods: Data were collected from bereaved individuals. A questionnaire detailed sociodemographic and psychosocial characteristics of the decedents. We reconstructed the suicidal process in the months preceding the suicide in an interview. Findings from the questionnaire and interview were integrated. An independent expert committee formulated recommendations for suicide prevention.

Results: 162 suicides were investigated. Young decedents showed high levels of substance use and academic pressure. Young adults with developmental disorders were vulnerable in the transition to adulthood. Young males reached out less to support and care. By contrast, suicides of young females were distinguished by comorbidity of psychiatric disorders, frequent suicidal behaviours, high levels of care use, wait lists and a loss of (treatment) perspective, harmful social media use and bullying. Work and financial problems were common in middle-aged decedents. Physical disability and pain were frequently mentioned for middle-aged females. Suicide in middle-aged males was characterized by financial distress, interpersonal conflicts such as divorce, high levels of binge drinking and addiction.

Conclusions: Our data provide a topology of the needs of individuals at risk for suicide. Suicide prevention strategies can be improved by better transition support and explicit suicide monitoring in young adults with a developmental disorder, active waitlist policies in mental healthcare, and improved collaboration between debt counsellors and mental care professionals based on shared accountability.

Key messages:

- Bereaved individuals elucidated a wide range of psychosocial problems in suicide decedents.
- Suicide prevention should adhere to a needs-based approach.

Abstract citation ID: ckae144.2225
Exploring the association between cyberchondria and attention to negative information

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Objectives: This study aimed to preliminarily evaluate the relationship between cyberchondria and attention to negative information.

Methods: The data utilized for this analysis was obtained from a cross-sectional and web-based survey conducted in China between March and April, 2024. All participants were recruited from an online panel belonging to a survey company. Cyberchondria was assessed using the Chinese version of the Cyberchondria Severity Scale - 12 item (CSS-12). Attention to negative information was measured using the negative subscale of the Attention to Positive and Negative Information Scale (APNIS). A multivariable linear regression model was employed to evaluate the relationship between cyberchondria and attention to negative information.

Results: Out of 344 participants, 315 (91.6% response rate) completed the questionnaire and provided valid responses. Approximately 51.7% ($n = 163$) were female, 83.8% ($n = 264$) had completed tertiary or higher education, and 52.7% ($n = 166$) were urban residents. The average age was 32.6 years ($SD = 6.0$). The mean score for CSS-12 was 40.6 ($SD = 7.8$, range: 18-59). The mean scores for the different dimensions of the CSS-12 were: excessiveness, 10.6 ($SD = 2.4$); distress, 10.3 ($SD = 2.7$); reassurance, 10.6 ($SD = 2.5$); and compulsion, 9.1 ($SD = 2.7$). The mean score for the negative subscale of APNIS was 31.9 ($SD = 8.6$, range = 12-52). Multivariable linear regression models revealed a statistically significant relationship between cyberchondria and attention to negative information ($beta = 0.42$, $p < 0.001$), after adjusting for background characteristics.

Conclusions: Our findings showed individuals with a higher level of cyberchondria tend to pay more attention to negative information. Therefore, it's beneficial to develop strategies and interventions that provide accurate, balanced online health information and educate individuals about the risks of excessive online health searches.

Key messages:

- Our findings showed individuals with a higher level of cyberchondria tend to pay more attention to negative information.
- It is beneficial to develop strategies and interventions that provide accurate, balanced online health information.

Abstract citation ID: ckae144.2226
Protocolizing social prescribing in mental health and addiction services: barriers and opportunities

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Issue: Social Prescribing (SP) is a structured approach where health professionals recommend community activities to enhance well-being. Starting in Catalonia in 2012, it expanded to the entire primary care network by 2016. By 2023, 23,338 patients received SP, showing a 2.3-fold increase from 2022. Two-thirds experienced improvement in mental well-being. Now, efforts focus on applying SP to mental health and addiction services (MHAS), where SP can be used for restoring health and well-being.

Description: A literature review was conducted and a working group was initiated with MHAS professionals was initiated to exchange experiences and identify needs and best practices. This was done in preparation for designing a pilot experience, which will include a qualitative study through focus groups to validate the action plan and determine barriers and facilitators in MHAS. The groups will be segmented into MHAS users and frontline professionals.

Results: The results of the review process and the working group sessions demonstrated that SP can be useful and beneficial for the health MHAS users. However, barriers and opportunities were identified. The main barriers detected include: the need for strong support during referrals to community activities; increased awareness of addiction among activity providers to reduce stigmatization; define inclusion and exclusion criteria; determining monitoring and evaluation tools; and mapping and updating community assets. Regarding opportunities, the following were highligthed: the interest of MHAS professionals in promoting and implementing a SP program in this area; the existence of organizations already conducting community activities focused MHAS users; and political prioritization of this issue.

Lessons: The implementation of a SP program protocol in MHAS is considered beneficial. It is necessary to analyse barriers to effectively address them and to identify opportunities to leverage them.

Key messages:

- Social Prescribing has significantly enhanced mental health outcomes in Primary Care, which can imply a potential improvement in well-being of mental health and addiction services users.
- Implementing Social Prescribing in mental health and addiction services offers promising integrated care opportunities, requiring barriers resolution and maximizing existing prospects.

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Social inequalities in the mental well-being of adolescents in Barcelona (2016-2021)

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Crises have the potential to affect mental well-being (MWB), especially at vital stages of personal development such as adolescence. The objective of this study was to investigate the 2016-21 trends of social inequalities in the MWB of adolescents in Barcelona, stratifying by sex. Sequential, cross-sectional study based on the FRESC survey, held by the ASPB, representative of 8th and 10th grade adolescents (13-16 years old) schooled in Barcelona, in 2016 (N = 2,154) and 2021 (N = 2,299). MWB was examined using the validated WEMWBS, scoring from 14 (lowest) to 70 (highest) MWB. A temporal trend analysis of inequalities in MWB was carried out using the student socioeconomic status (SES) (low/average/high), measured with the validated FAS. For each group, the effect size of the WEMWBS means was measured with Cohen's D. Linear regressions were performed, adjusting for academic grade, student country of origin, type of school and school index of vulnerable students. Adjusted β coefficients (aβ) and their statistical significance ($p<.05$) were estimated. In 2016, boys had higher MWB mean scores than girls (54.0 vs 50.8) ($p<.01$). In 2021, sex differences persisted, but with lower scores (51.7 vs 47.0) ($p<.01$) and still with a moderate effect size (0.52 in 2021 vs 0.40 in 2016). In multivariate regression models, boys in low SES showed the greatest MWB decrease in 2016 (low vs high SES: aβ= -3.44; $p<.01$). A significant temporal trend 2016-2021 of MWB worsening was observed in all groups, except for boys in low SES. The greatest deterioration in MWB was observed in girls, similarly in different SES (low SES: aβ= -3.52; $p<.01$). Boys in low SES showed the worst MWB in 2016 whereas all SES categories of girls had a significant trend of deterioration in MWB (2016-21). The latter could be attributed, among other factors, to a differential effect of the COVID-19 pandemic. These results underline the importance of addressing inequalities in the MWB, particularly among adolescent girls.

Key messages:

- This study reveals a deterioration in mental well-being temporal trends (2016-2021) among adolescents in Barcelona, especially in girls.
- Findings emphasize the need to address social inequalities for improving mental well-being outcomes in adolescent populations.

Abstract citation ID: ckae144.2228
Associations between school engagement and mental well-being among Finnish parent-child dyads

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Background: To understand how individual differences in mental well-being emerge for children and adolescents, it is important to understand the amenable factors in the context in which the development takes place - that is, for children, primarily in the family and in school. There is a notable gap in the research exploring the positive impacts of school factors on parent-child dyads and their mental well-being, and if there are any associations between school engagement and the mental well-being of parents and their children.

Methods: Data from 307 parent-child dyads were included in the study, the data stemming from a Finnish l research project (CONSENSUS) encompassing longitudinal survey data collection among both children in grades 4-6 and their parents. By exploring bivariate correlations and using the Actor-Partner Interdependence Model (APIM), the present study aims to investigate actor and partner effects of school engagement and mental well-being among parents and their child in grade 4-6.

Results: Preliminary results show that there are statistically significant correlations between parents' and their children's mental well-being, but that there are no significant correlations between children's school engagement and parental school engagement. Further, statistically significant actor effects emerge between children's school engagement and mental well-being, and between parental school engagement and mental well-being.

Conclusions: By clarifying the interaction between school engagement and mental well-being in parent-child dyads, this study not only contributes to the theoretical understanding of these constructs but also offers insights that can inform future development of mental well-being promotion interventions aimed at families and educational settings in Finland and elsewhere.

Key messages:

- This study offers an innovative exploration of the links between mental well-being and school engagement among 274 Finnish parent-child dyads.
- Results show various interactions between school engagement and mental well-being among the parent-child dyads, with implications for interventions intended to support well-being in families.

Abstract citation ID: ckae144.2229
The impact of the covid 19 pandemic on eating disorders in Slovenia

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Introduction: Eating disorders are an important public health problem of adolescents. The purpose of the research was to examine the impact of the covid 19 pandemic on eating disorders, as adolescents were one of the most affected groups.

Methods: Data from the databases of the National Institute of Public Health (Outpatient Health Statistics and Database of Hospital Treatments for Diseases for the period from 2010 to 2021 and the Database of Deaths for the period from 2000 to 2021 were used for typical (F50.0) and atypical (F50.1) anorexia nervosa, typical (F50.2) and atypical (F50.3) bulimia nervosa and unspecified eating disorders (F50.9)) and the web portal To sem jaz.net for the period from 2012 to 2022. Data on of first visits and hospital treatments were processed for a twelve-year period and crude rates were calculated according to time, gender and diagnoses.

Results: Data showed that rates of first visits at the primary level and rates of hospital treatment did not change statistically significantly between 2010 and 2019 for women and for men. In 2020 and 2021, both rates increased for women and men. Based on the 10-year average for the period from 2010 to 2019, in 2021 the rate of first visits at primary level increased by 119 % for women and 91 % for men, and the rate of inpatient treatment increased by 50% for women and 80% for men. Girls predominated among treated at primary and secondary levels. The increase in first visits and hospital treatments was mainly due to anorexia nervosa. In the period from 2000 to 2021, eating disorders were the main cause of death for 24 people in Slovenia. In 2022, there were 3.7 times more questions in the field of eating disorders at web portal To sem jaz.net than in 2019.

Conclusions: Eating disorders are chronic diseases that develop over many years. The increase in mental health problems associated with the covid 19 pandemic may be reflected in the increase in eating disorders in the following years as well.

Key messages:

- Eating disorders are an important public health problem of adolescents.
- The increase in mental health problems associated with the covid 19 pandemic may be reflected in the increase in eating disorders in the following years as well.

Abstract citation ID: ckae144.2230
Barriers and facilitators to healthcare services of people with mental ill-health in Europe

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Background: People with mental ill-health (PMIH) have higher cancer mortality rates than the general population. Barriers to healthcare service access may be a contributing factor. The EU-funded CO-CAPTAIN project aims to reduce health inequalities by improving overall health and reducing cancer burden by adapting and implementing the Patient Navigation (PN) Model targeted at PMIH. This qualitative study explored healthcare system experiences of PMIH in Austria, Greece, Poland, and Spain.

Methods: Eighty-one participants (22-76 years old), including 34 PMIH, 10 caregivers, 14 care team members, 12 mental health organization representatives, and 11 service manager representatives, were recruited. Semi-structured interviews focused on awareness of cancer risk factors, healthcare system experiences, and perspectives on PN as an intervention. Interviews were transcribed verbatim and analyzed using thematic analysis.

Results: Three major themes emerged: (1) somatic health relevance and preventive services utilization and (2) barriers / (3) facilitators to preventive services access. Knowledge of cancer prevention services varied greatly. Participants were aware of associations between risky health behaviors and health. Burden of mental health problems and discrimination, insufficient access to information, and lack of service flexibility were noted as barriers. Considerations of individual circumstances, social support, and empowerment were named as facilitators.

Conclusions: Tailored interventions involving healthcare professionals and PMIH in development of supportive environments and health literacy have the potential of overcoming identified barriers to the use of healthcare services.

Key messages:

- People experiencing mental ill-health are faced with significant structural barriers when accessing somatic health services.
- Understanding people's needs in terms of access and utilization of health care allows us to define guidelines for future personalized healthcare solutions.

Abstract citation ID: ckae144.2231
Factors associated with low resilience among French university students during COVID-19 lockdown

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Background: COVID-19 and subsequent lockdowns had an impact on the mental health of students, who had already been identified as a vulnerable population prior to this pandemic. At the end of the first COVID-19 lockdown, 15% of students reported suffering from moderate to severe anxiety. Psychological resilience is defined as the ability to bounce back from a stressful event and has been shown to have a positive impact on mental health parameters. This study aimed to identify factors associated with low resilience in the student population of the Grand Est region of France, at the end of the first national containment related to COVID-19.

Methods: The PIMS-CoV19 study: A cross-sectional online survey was conducted among students at the University of Lorraine to collect sociodemographic data, living and learning conditions, as well as levels of resilience and perceived health. Bivariable and multivariable logistic regression analyses were performed. Model robustness was assessed using bootstrap resampling.

Results: Among 3708 students, 50.6% had normal resilience, while 37.3% reported low resilience. Female gender (OR = 2.1, 95% CI: 1.8-2.6) and low social support (OR = 1.7, 95% CI: 1.1-2.6) were the main risk factors for low resilience. Negative thoughts (OR = 1.4, 95% CI: 1.4-1.5), lower quality of relationships with people in general (OR = 1.5, 95% CI: 1.3-1.8), and studying arts, humanities, or languages (OR = 1.4, 95% CI: 1.0-1.8) were identified as risk factors. Increased age (OR = 0.9, 95% CI: 0.9-1.0) and flat sharing (OR = 0.6, 95% CI: 0.4-0.9) were protective factors against low resilience.

Conclusions: Resilience seems to be impacted primarily by internal and micro-environmental factors. Consolidating levels of individual resilience of at-risk populations by acting on these factors could be the key to improving their mental health.

Key messages:

- Resilience seems to be impacted primarily by internal and micro-environmental factors.
- Consolidating levels of individual resilience of at-risk populations by acting on these factors could be the key to improving their mental health.

Abstract citation ID: ckae144.2232

Self-esteem and illness perception in multiple sclerosis: Unveiling key factors for self-management

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Background: Multiple sclerosis (MS) is characterized by demyelination and variable symptomatology, and typically appears during young adulthood, making it a condition of considerable public health concern. Given its chronic nature, understanding of the illness perception plays a crucial role in long-term disease management. Our research aims to examine the factors affecting illness perception among people with MS.

Methods: The study sample consisted of 166 patients with MS (75.3% women; mean age: 40.9±11.3 years; mean disease duration: 11.6±7.1 years). People with MS underwent medical examination to assess their functional disability measured by Expanded Disability Status Scale (EDSS), and structured interview, during which data on age, sex, education, employment status, income and disease duration were obtained. Finally, they were asked to fill in the Brief Illness Perception Questionnaire (BIPQ), and the Rosenberg Self-esteem Scale (RSE). Data were analysed with multiple linear regression analysis.

Results: Our results showed an association between functional disability and illness perception ($\beta = 0.22$; $p < 0.05$). However, this association lost its significance upon adding self-esteem into the model (β=-0.53; $p < 0.001$), with overall explained variance in illness perception rising from 2.7% to 27.5%. No statistically significant contribution of other socio-demographic or clinical variables was observed.

Conclusions: Higher self-esteem in people with MS appears to be intricately connected to their illness perception. Given that the management of chronic conditions heavily relies on patients' personal resources, healthcare providers could play a crucial role in fostering self-esteem. By encouraging the development of self-esteem, patients may come to view their illness as more manageable and less daunting, potentially leading to mitigation of negative consequences of functional disability. [Grant support: VEGA 1/0608/23]

Key messages:

- Self-esteem may be stronger predictor of illness perception than functional disability in people with MS.
- MS patients may benefit from psychological support aimed at promoting self-esteem.

Abstract citation ID: ckae144.2233

Youth mental health outreach interventions: lessons from an experience capitalisation process

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Issue: Young people face socioeconomic, geographical and cultural barriers to access care and support in mental health. Practitioners implement outreach initiatives to improve mental health and address health inequalities, mostly developed in a 'no-request for care' context.

Methods: To better understand the implementation mechanisms of these initiatives, Fondation de France commissioned the French Society for Public Health to carry out an experience capitalisation to inspire other professionals. Experience capitalisation method was used, based on in depth interviews with project stakeholders. Covered themes were: the description of history, strategies and activities; identification of key moment and key levers; skills and knowledge used.

Results: Nine mental health outreach projects implemented across regions of France were selected with the help of a multidisciplinary steering committee. Each project was synthetised in a capitalisation document and a cross-sectional analysis was undertaken.

Lessons:

- A variety of outreach approaches were carried on: meeting adolescents in the street or at coffee shops; home-based interventions; consultations in converted van etc. • Outreach is not just a matter of physically moving outside health structures but requires non-judging and flexible stance to adjust to the youth's pace and will. To extend their approach to mobility, professionals deepen their team's multidisciplinarity, broaden cross-sector partnerships and mobilise new skills and creativity. • Adolescents' participation to care or support plans was one of projects strengths, whether they suffer from anxiety or mental disorders. However, their participation in governance and decisions regarding global projects remained limited.

Key messages:

- To reduce mental health inequalities and enhance youth participation in outreach interventions, empowerment and wellbeing of interventions practitioners should also be supported.
- Capitalisation of experience in health promotion is a promising method contributing to professional acknowledgment and development of shared knowledge on interventions implementation.

Abstract citation ID: ckae144.2234
Gambling disorder and its associated factors in university students

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Background: Gambling disorder (GD) is defined as persistent and uncontrollable gambling behaviour that has negative effects on an individual's life. This can lead to financial problems, poor academic performance, and health problems. GD has been associated with psychological disorders like depression, anxiety, and attention-deficit hyperactivity disorder (ADHD). We aimed to examine the gambling disorder and its associated factors in university students.

Methods: We conducted a cross-sectional study among students at a university in Eskisehir (Türkiye) in 2024. A stratified random sample design was used. Five faculties were randomly selected. A total of 1,201 students were included according to the stratum weight of the faculties. A questionnaire including sociodemographic characteristics, South Oaks Gambling Screen (SOGS), and Adult ADHD Self-Report Scale (ASRS) was applied. Data were analysed through descriptive statistical analyses and multivariate logistic regression models.

Results: The mean age was 21.5±2.8 years, and 46.8% were male. While 48.7% of the students stated that they had gambled at least once, 2.2% had a gambling disorder. The three most common types of gambling played by students were stock market (28.2%), bet on sports (22.0%), and scratch cards (18.2%). In multivariate analysis, being male (Odds ratio-OR:6.5, 95%CI:1.4-29.8), having lost years during education (OR:2.7, 1.1-6.8), having relatives with gambling problems (OR:8.0, 1.8-36.2), investing greater amounts of money in gambling (OR:3.7, 1.0-13.0), and having a high probability of ADHD (OR:4.3, 1.4-12.8) were found to be predictors for GD.

Conclusions: Although about half of the students had engaged in gambling activities, only a small proportion showed signs of GD. We can conclude that being male, having lost years in education, having relatives with gambling problems, investing larger amounts of money in gambling, and having a higher probability of ADHD are predictors of GD among students.

Key messages:

- Implementing educational campaigns at universities to raise awareness of the potential risks and consequences associated with GD could be beneficial.
- It may be helpful if mental health services at the university were equipped to consider mental health conditions such as ADHD, that contribute to GD.

Abstract citation ID: ckae144.2235
Luxury depiction in posts of the most popular Lithuanian influencers on Instagram and Facebook

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Background: Studies show that depiction of high living standards in social media is related to mental health problems. Influencers in social networks are those who might publish such content and reach high numbers of people. We aimed to assess the prevalence of luxury depiction in posts published by Lithuanian influencers on Facebook and Instagram.

Materials and methods: All publicly available posts created by 21 most popular Lithuanian influencers on Facebook and Instagram in 2022 were included. The content analysis of the posts was performed and information about luxury and other lifestyle factors was registered. Distribution of the posts depicting luxury was compared according to social networks where they were published and characteristics of the influencers: gender, age, number of followers, and the target audience.

Results: A total number of 6425 posts were analysed. Every fifth (18.2%) post depicted luxury. Posts depicting luxury were published on Facebook and Instagram with a similar frequency ($p = 0.066$). Among these posts, luxury brands were presented in 7.5%, luxury hotels and restaurants - in 7.1%, luxurious trips - in 63.0%, luxurious cars - in 27.6%, luxurious activities - in 0.8%, and jewellery - in 0.5%. Overall, men, older influencers, influencers with higher number of followers more frequently posted content depicting luxury (respectively, 29.0% vs. 10.6%, 20.2% vs. 14.5%, 20.3% vs. 15.4%, p-value less than 0.001). Luxury was more frequently depicted in posts targeted to male audience than targeted to female or unisex audiences (respectively, 46.6% vs. 10.5% vs. 20.7%, p-value less than 0.001).

Conclusions: Every fifth post of Lithuanian influencers depicts luxury. Luxurious trips are depicted most frequently. Male and older influencers, and those with more followers more frequently depict luxury-related content. Luxury is most frequently depicted in posts targeted to male audience.

Key messages:

- Every fifth post of Lithuanian influencers depicts luxury – this might be considered as an important risk factor for public mental health.
- Higher prevalence of luxury depiction targeted to male audience should be taken into account when implementing public health interventions.

Abstract citation ID: ckae144.2236
Investigating the role of psychosocial stress factors in back pain patients

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Background: In 2022, 27.35 million people in Germany were diagnosed with back pain. This results in a 1-year prevalence of 32.64 percent of the population and 96,8 million days of incapacity to work. Moreover, patients with back pain often suffer from additional mental disorders (e.g. anxiety, depression). This study investigated the influence of other health-related factors such as psychosocial stress in these patients.

Methods: A randomized controlled study was conducted with 297 gainfully employed participants in a rural rehabilitation center in Germany Bad Zwischenahn who received a 4-week multimodal pain therapy. 150 participants were allocated to the intervention (IG) who received an additional 12-month relapse prevention treatment while

147 were allocated to the control group (CG) who received no such additional treatment. Data was obtained via questionnaire (three measurement points) and claims data. Among other health-related outcomes, the number of sick days was examined. A 10-item subscale of the Patient Health Questionnaire (PHQ) was included to measure common psychosocial stress factors.

Results: The evaluation of the PHQ (summary) scores revealed a mild stress level at all three dates. Of the ten psychosocial stress factors surveyed, the highest level was reported in the IG and CG on the scale "Worrying about health". The IG improved significantly ($p = .017$) compared to the CG after one year reporting decreased health worries. Further analyses carried out by analysis of variance (ANOVA) showed that health worries are significantly associated to a higher number of sick days in the IG ($p = .002$) and CG ($p = .010$).

Conclusions: With regard to psychosocial stressors, the participants were primarily affected by health worries. The results indicate that health concerns are the primary psychosocial stress factor associated with back pain and should be taken into account in the treatment of back pain.

Key messages:

- A 12-month relapse prevention treatment significantly reduced the psychosocial stress experienced by people with back pain after their rehabilitation treatment.
- Concerning psychosocial stress factors, the participants of both groups were primarily affected by health worries.

Abstract citation ID: ckae144.2237
The impact of telework on mental health: a secondary analysis of the 2023 BelHealth

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Background: Teleworking gained ground in most workplaces, but questions remain about its impact on mental health. This research used data from the BELHEALTH cohort, a Belgian longitudinal wellbeing study, to investigate the relationship between the extent of telework and three mental health outcomes: anxiety, depression, and burnout.

Methods: In June 2023, the quarterly online survey assessed telework frequency (never, monthly, weekly, daily) as well as state of anxiety (GAD-7), depression (PHQ-9) and burnout (BAT-12). A complete case analysis ($n = 2{,}303$) of these cross-sectional data was performed with employed participants aged 18-65 years. Logit generalized linear mixed models were constructed, with the mental health outcomes as binary outcomes, telework as ordinal covariates, and occupation, type of job, as random effects. The anxiety, and depression models were controlled for geographical location, sex, age, and education confounders, whereas the burnout model was controlled only for sex, and education due to lack of observations.

Results: In this secondary analysis, we found that daily telework increased the odds of anxiety by 2.33 (95% CI [1.71; 3.17], $p < 0.01$), the odds of depression by 2.98 (95% CI [2.16; 4.12], $p < 0.001$), and the odds of burnout by 1.17 (95% CI [0.87; 1.58], $p > 0.05$) as compared with not teleworking while controlling for confounders. The category of monthly telework was associated with lower odds of anxiety (0.85; 95% CI [0.67; 1.07], $p > 0.05$), depression (0.91; 95% CI [0.74; 1.28], $p > 0.05$), and burnout (0.95; 95% CI [0.79; 1.15], $p > 0.05$) as compared to not teleworking.

Conclusions: Full-time teleworkers seem to have a higher odds for negative mental health outcomes. Future studies should focus on the long-term causal mechanisms that explain how telework intensity influences mental health to tailor and optimize current wellbeing initiatives at the workplace.

Key messages:

- Our survey points out that full-time teleworkers seem to be at risk of mental health problems.
- The frequency of telework has a mixed influence on mental health, indicating that different employees need tailored wellbeing initiatives.

Abstract citation ID: ckae144.2238
Social factors that promote resilience in adolescents with depression: a systematic review

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Background: A socially protective environment matters. Social factors can protect against the development of depression among adolescents in community samples. There is however scant knowledge about their buffering role on the impact of depressive symptoms in adolescents in a clinical setting. Understanding these factors can help explaining why some children function well despite of their depression symptoms. In this review, we aimed to identify which social protective factors mitigate impairment from depression in adolescents.

Methods: We included peer-reviewed, cross-sectional and longitudinal studies using the following search strategy: Social protective factors AND depression or depression symptoms AND adolescents AND daily impairment, yielding 1737 hits. Included studies focused on social protective factors in relation to a depression diagnosis or depression symptoms severity, in adolescents age 11-24.

Preliminary results: We found 6 studies that examined the relationship between social protective factors and impairment or severity of depression symptoms in adolescents with a clinical depression or elevated symptoms. In these studies, higher rates of parental attachment, parental monitoring and school belonging moderated the relation between depression symptoms and daily impairment. Higher rates of family support and peer belonging were associated with the low depressed mood group. The rest of the studies tested the association of social protective factors on the development of depression symptoms in non-clinical populations.

Conclusions: There are limited studies on the buffering role of social protective factors in adolescents with clinical depression. Next, we will focus on non-clinical, longitudinal studies to explore which social protective factors moderate the development of depression over time. We aim to identify social factors that can mitigate the development of depression in community samples and are potentially important for clinical settings.

Key messages:

- There is a scarcity of studies that explored the relation between social protective factors in adolescents with elevated depression symptoms or depression diagnosis.
- The role of social protective factors that moderate the development of adolescent depression symptoms over time should be prioritized in the development of intervention programs.

Abstract citation ID: ckae144.2239
Factors Influencing Suicidal Ideation in Young and Middle-aged Adults in Korea: A Nationwide Study

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Objectives: This study aims to analyze various factors influencing suicidal ideation among young (19-39 years) and middle-aged (40-64 years) adults using nationwide longitudinal data in South Korea, which has the highest suicide rate among OECD countries for more than 20 years.

Methods: An analysis was conducted using the WAVE II data (2016-2017) from a nationwide longitudinal study on the mental health of suicide survivors (LoSS). The sample included 2,002 participants (1,290 young adults, 712 middle-aged adults) recruited through stratified proportional quota sampling. Multiple regression analysis was performed to identify factors influencing suicidal ideation in each age group.

Results: In young adults, being female, having a high school education or lower, being unmarried/divorced/widowed, and having higher levels of depression were positively associated with suicidal ideation. Higher levels of social support and better subjective physical health were negatively associated with suicidal ideation. In middle-aged adults, being unemployed, living alone, drinking alcohol more than once a week, and having higher levels of depression were positively associated with suicidal ideation, while higher levels of social support were negatively associated with suicidal ideation.

Conclusions: Factors influencing suicidal ideation differ between young and middle-aged adults. Age-specific suicide prevention strategies considering these factors are needed to promote social health and stability in South Korea.

Key messages:

- Different factors influence suicidal ideation in young and middle-aged adults in South Korea.
- Age-specific suicide prevention strategies are necessary to effectively address suicidal ideation and promote social health and stability in South Korea.

Abstract citation ID: ckae144.2240
Fear of falling as a psychological consequence of fall in older adults

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Background: Falls is one of geriatric syndromes that impact active ageing. It is a major public health problem as falls can lead to irreversible health, social, and psychological consequences, and a large economic burden.

Methods: Elderly women, aged 65 years and above, who attended the National Osteoporosis Center for diagnostic or treatment purposes, participated in telephone interviews. These interviews aimed to document the outcomes and healthcare measures associated with any falls they experienced in the preceding 12 months. There was used a specially prepared questionnaire for demographic and falls data, fear of falling questionnaire "Falls Efficacy Scale International" (FES-I) and physical activity questionnaire "Physical Activity Scale for the Elderly" (PASE).

Results: The study population consisted of 339 community-dwelling women (mean age 72.9±5.3 years) all of whom reported experiencing one or more falls. One in three of these women had fallen two or more times. Most of all their fall resulted in an injury, and 79 (23.3%) reported falls led to bone fractures. Fear of falling was reported as a consequence of experienced fall by 251 (74.1%) women. Almost half of fallers restricted their everyday activities. The primary cause for limiting everyday activities was identified as pain.

Conclusions: Fear of falling was reported by 74.1% of women who fell during the previous 12 months. Every woman who experienced hip or vertebral fractures subsequently restricted their daily activities.

Key messages:

- Fear of falling is common among elderly women who has fallen once or more.
- The restriction of everyday activities is usually reported by women who feel pain and are afraid to fall again.

Abstract citation ID: ckae144.2241
WeCare – Mental healthcare for health professionals

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Issue/Problem: Health professionals face physical and mental stressors (risk factors) due to challenging working conditions.

Description of the Problem: Despite high levels of health literacy among healthcare workers, maintaining healthy habits is challenging due to variable shifts, including nights, high workloads, and intense emotional and mental demands. Adopting a healthier lifestyle requires personal changes that can be difficult to implement, particularly in nursing and caregiving. This is critical, as retaining and attracting new staff in these fields is essential for the healthcare sector.

Results/Effects/Changes: To address these challenges, it's crucial to boost intrinsic motivation and provide healthcare workers with practical tools to support their well-being and encourage them to remain in the sector. The WeCare project offers a mobile app designed as a 'pocket coach,' accessible at any time. Healthcare professionals can use the app to assess their current mental well-being through self-evaluation. With built-in assessments and predefined thresholds, the app tracks stress levels and quality of life. Depending on the outcomes, users are automatically guided to appropriate information, gamified activities, and exercises tailored to their specific needs. The project, running from 2022 to 2024, is co-funded by the European Union's Erasmus+ programme.

Lessons: The app is beta-tested during 2024 in five countries: Germany, Austria, Serbia, Poland, and Italy, with local language support. The test group will consist of healthcare professionals and related professions. The results, including user engagement and motivational factors are analyzed. As the project concludes in autumn, comprehensive recommendations and lessons learned will be compiled and presented at the European Public Health (EPH) Conference. This will also include sharing the app and its solution with the broader healthcare community.

Key messages:

- The WeCare app supports healthcare workers' mental health with a mobile "pocket coach" that provides personalized exercises. Through gamification, it promotes healthy habits and boosts job motivation.

- It is critical to support healthcare workers, as retaining and attracting new persons is essential for the healthcare sector.

Abstract citation ID: ckae144.2242
"Ajudar" – a practice with people with mental disorders treated with long-acting injectables

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Issue: Mental Health problems are one of the main causes of disability and morbidity. We think it is pertinent to intervene, providing special care for people with mental disorders and their families. We developed the project "Ajudar" ("To Help"), in a municipality in Northern Portugal.

Description of the problem: "Ajudar" started in 2013. Its main goal is to contribute to reducing the impact of mental disorders. Its objectives are to identify people with mental disorders treated with long-acting injectables (LAI) and to promote treatment adherence. We identified the Health Units (HU) where these patients take the medication and verified their compliance. An informatic alert was issued when there was non-compliance and we participated in home visits when patients did not show up. We also checked the situation if there was involuntary treatment. We wanted to know if this practice contributed to treatment compliance and to reduce involuntary treatment.

Results: We gradually identified more people, from 47 in 2013 to 108 in 2024. In 2013, 7 people with mental disorders treated with LAI had an involuntary treatment, whereas in 2019 it was 4. We didn't analyze data from 2020 to 2022, due to the COVID-19 pandemic. We don't have the complete data from 2023 yet.

Lessons: Within the years of "Ajudar", there was a more than twofold increase in the identified patients and a reduction of almost fourfold of the patients that had an involuntary treatment. Analyzing these data one must be careful due to small numbers bias. We think that a similar project is feasible in other settings. In our response to this Public Mental Health issue, we collaborated with everyone involved with these patients, from health profissionals to resources in the community (social services, community leaders, etc).

Key messages:

- There was a decrease to almost 3/4 in the number of patients that had an involuntary treatment.
- Involvement with the community is key.

Abstract citation ID: ckae144.2243
Stigma towards people with mental conditions in healthcare workers: an Italian cross-sectional study

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Background: Stigma towards people with mental disorders (MD) in healthcare workers (HCWs) can negatively influence the quality of care provided and hinder patients from accessing healthcare.

The aim of this study was to analyze stigma and its determinants among physicians and nurses in Italy, as a basis for future strategies to reduce its extent.

Methods: A cross-sectional study was conducted from April to September 2023. A sample of 1053 physicians and nurses working in Italy answered an online 52-item questionnaire. Variables explored demographic data, work context, burnout symptoms, and personal or family history of MD. The Opening Minds Scale for Health Care Providers (OMS-HC) was used to assess the level of stigma (score from 20 to 100, higher scores represent higher levels). Descriptive analysis and multivariable linear regression were performed.

Results: Females were 69.5% and median age was 48 years (IQR=37-58). Physicians were 60.5%. A total of 20% of the sample worked in psychiatric settings. Burnout symptoms were reported by 23.5%. Results showed a median OMS-HC score of 49 (IQR=43-54). Positive associations with stigmatizing attitudes were found for being a nurse ($p = 0.020$) and being in burnout ($p = 0.017$), while working in a psychiatric setting ($p < 0.001$) and having personal or family history of MD ($p < 0.001$) had negative associations.

Conclusions: This research unveiled a notable amount of stigma among Italian HCWs towards individuals with MD. Since people with MD experience higher rates of disability and mortality, it has to be a public health priority to develop targeted strategies to reduce stigma in HCWs, as it discourages patients from accessing healthcare. Future interventions should be tailored for different professionals and dealing with HCWs burnout.

Key messages:

- Future interventions should consider that healthcare workers in burnout and nurses tend to have more stigma toward patients with mental conditions.
- Healthcare professionals working in psychiatric settings and having personal or family history of mental disorders showed lower stigma.

Abstract citation ID: ckae144.2244
Latent class analysis of attitudes towards drug use and well-being among South Korean young adults

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Background: The surge in drug use and lack of awareness about drug-related dangers among young adults have become major public health concerns in South Korea. According to the Theory of Planned Behavior, understanding attitudes towards drugs is crucial, as permissive attitudes may lead to drug use. Thus, the study aims to identify latent classes of drug use attitudes among Korean young adults and evaluate how their well-being influences each class.

Methods: A total of 301 college students in Seoul, South Korea, participated in the study. Latent class analysis (LCA) was employed to identify unique patterns of attitudes towards drug use. Subsequently, we examined the relationships between auxiliary variables (i.e., well-being, including life satisfaction, self-control, quality of life, depression, generalized anxiety disorder, childhood trauma, self-esteem, stress, family strengths, perceived social support, and stigmatization) and latent classes (i.e., attitudes towards drug use subgroups) by conducting multivariate logistic regression analyses.

Results: LCA categorized attitudes towards drug use into three groups: Class 1 (Permissive Drug Attitude Group), Class 2 (Moderate Drug Attitude Group), and Class 3 (Critical Drug Attitude Group). Class 2 showed a particularly permissive view on marijuana legalization. In multivariate logistic regression, higher stigmatization ($\beta = .900$, $p < .05$) was associated with membership in Class 1 compared to Class 3. Furthermore, being male ($\beta = 2.272$, $p < .001$) and having higher self-esteem ($\beta = .989$, $p < .05$) were linked to membership in Class 2 compared to Class 3.

Conclusions: The study enhances understanding of the complex relationship between Korean young adults' well-being and their drug use attitudes. Effective interventions by frontline social workers aimed at preventing drug use should continuously monitor and address social stigmatization and self-esteem while providing accurate information and education regarding drug use.

Key messages:

- Latent Class Analysis sorted drug attitudes into three groups: 'Permissive,' 'Moderate,' and 'Critical' Attitude Groups.
- Individuals experiencing social stigmatization had a higher risk of permissive attitudes, while higher self-esteem increased the likelihood of being in the moderate group over the critical group.

Abstract citation ID: ckae144.2245
"Do not forget about us." A systematic review of needs and unmet needs in dementia care in Europe

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Background: In Europe, the prevalence and costs of dementia, including Alzheimer's disease, are rising due to demographic changes. The care provided does not adequately address the needs of stakeholders involved. This systematic review aims to identify the needs, and unmet needs in European dementia care, thus providing a comprehensive framework to improve dementia care services.

Methods: Our inclusion criteria, adhering to PRISMA guidelines, include studies published from 2013 to 2023, and addressing needs and unmet needs of persons living with dementia, caregivers, and dementia care professionals. Risk of bias was evaluated using the Mixed Methods Appraisal Tool.

Results: From an initial pool of 3738 articles, 48 studies meet inclusion criteria. Caregivers express need for support, notably in psychological and logistical assistance, in managing daily errands and healthcare tasks, and to navigate healthcare system, exacerbated by the stress and isolation during the COVID-19 pandemic. Persons living with dementia face challenges in social inclusion due to the lack of public understanding and community-based care. Dementia care professionals emphasise need for more training and resources to manage dementia effectively, with a recent shift towards the necessity for telehealth competencies. Furthermore, caregivers from ethnic minorities highlight the importance of culturally sensitive healthcare access to overcome cultural and language barriers.

Conclusions: Educational resources, broaden community support, clear information about available care services, and public understanding of dementia were the most commonly expressed unmet needs. Addressing these needs within the dementia care network is crucial for better service integration and improving the quality of life for all stakeholders involved. Future research should focus on developing strategies to address the unmet needs, ensuring robust support for the increasing number of individuals affected by dementia.

Key messages:

- Care dementia effectively needs more resources, training, and a culturally sensitive healthcare access to ethnic minorities.
- People living with dementia and caregivers need psychological and community-based support, social inclusion, clear information about available care services, and public understanding of dementia.

Abstract citation ID: ckae144.2246
Engaging co-creators network in a public mental health intervention: MENTBEST

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Background: MENTBEST, a 5-year EU-funded project, addresses mental health challenges among vulnerable groups using community-based interventions and innovative technologies. It aims to mitigate adverse impacts, focusing on migrants, older individuals, younger individuals, long-term unemployed individuals, and those with mental disorders in Albania, Germany, Spain, Denmark, Greece, Ireland and Estonia. MENTBEST seeks to provide tailored support to vulnerable populations, promoting mental well-being and resilience through two interventions (a) Mentina a mobile app and (b) a complex community intervention based upon the European Against Depression 4-level intervention.

Methods: A Participatory Action Approach has been employed through each research stage of MENTBEST where stakeholders across Europe have become part of the research team and provide input towards designing and evaluating the two interventions mentioned above. The PRODUCES framework was used to establish the Co-creators Network, ensuring inclusivity and relevance through: stakeholder mapping, prioritization, and engagement strategies. An online platform has been established for the network to collaborate as a community of practice, but also as means of upskilling co-creators through MOOCs and brief courses.

Results: The Co-creators Network comprises 24 diverse members strategically distributed among vulnerable groups through all participating Mentbest countries. Engagement activities include workshop participation on taking decisions on a range of research topics such as designing content, evaluation of the interventions, implementation of the interventions etc.

Conclusions: The Co-creators Network represents a milestone for MENTBEST, ensuring a collaborative approach to public mental health intervention. Innovative strategies highlight the project's commitment to addressing the mental health needs of vulnerable populations.

Key messages:

- Collaborative approach in MENTBEST fosters inclusive public mental health interventions.
- Co-creators Network drives innovative strategies to address mental health needs of vulnerable groups.

Abstract citation ID: ckae144.2247
Abstract Strengths and difficulties Lithuania

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Background: Most mental health disorders begin before the age of 18, peaking at 14.5 years (Solmi, 2022) and manifest as emotional and behavioural difficulties that are more frequent in institutional social care (ISC): former foster care recipients have higher rates of depression and PTSD than the general population (Pecora, 2009). The rate of children living in residential care facilities in Europe and Central Asia is double the global average (UNICEF, 2024). This study aims to assess and compare the mental health of children in ISC centers and regular high schools.

Methods: A cross-sectional study was conducted in ISC centres and high schools in 2022-2023. The sample size consisted of children aged 11-17 living in ISC (n = 49) or in families (n = 193). Online anonymous survey was applied to assess the prevalence of endured violence, substance use and measure mental health outcomes using the Strengths and Difficulties Questionnaire (SDQ-25).

Results: A total of 242 respondents (age mean 14.6, SD = 2.12) in ISC and families showed similar poor mental health rates (42% and 44%, respectively). Prosocial behaviour problems were exhibited more by boys ($p < 0.05$), whereas emotional symptoms were more common in families ($p < 0.001$): 90% normal SDQ-25 scores in ISC vs 60% in families. Enduring psychological (38% vs 60.2%) violence was more prevalent among children in families ($p < 0.05$); smoking - in ISC, alcohol use - in families ($p < 0.05$). In both groups enduring physical violence was associated with smoking and alcohol use ($p < 0.05$), and overall poor SDQ-25 results strongly correlated ($p < 0.001$, $r = 0.815$, $r = 0.610$, respectively) with hyperactivity.

Conclusions: A significant part of study participants reported poor mental health outcomes with most problems in relationships with peers. Mental health risk factors such as violence or substance abuse are associated with poor emotional wellbeing while being more common among children living with families.

Key messages:

- Children living in ISC and in families demonstrate similar level of mental health problems.
- Varying prevalence of substance abuse among children living in different settings highlights the importance of environmental factors when addressing the issue.

Abstract citation ID: ckae144.2248
Involuntary commitment and medical education on mental health diseases across Europe

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Background: Psychiatric diseases are projected to become one of the greatest contributors to the global burden of disease by 2030, already presenting as one of the principal causes of DALYs lost in Europe. Given the particular nature of psychiatric disorders, national legislatures have been enacted by each European country regarding the possibility of involuntary psychiatric treatment. As practical implementations vary greatly from country to country, we wish to analyse how different attitudes to involuntary treatment affect health outcomes, so as to propose a uniform guideline for European medical practitioners. We also wish to analyse whether medical education targeted at communication with psychiatric patients has an effect on involuntary treatment rates and general mental well-being.

Methods: We conducted a systematic review on PubMed to identify studies pertaining to how legislature on involuntary commitment varies between European countries, as well as to what extent it is utilised. We also looked at the extent of medical education on psychiatric diseases.

Results: Preliminary results show that involuntary hospitalisation rates vary greatly within Europe, with certain countries being almost 20 times more likely to utilise such measures than others, notwithstanding similar mental illness prevalence. Results do not seem correlated to legislation types.

Conclusions: Given the vastly different use of involuntary commitment, a more standardised European approach should be implemented, especially in sight of the growing prevalence and burden of disease of psychiatric illnesses. Furthermore, an often-overlooked aspect of medical education is how to understand and communicate effectively with patients dealing with mental diseases: we advocate for continuous education, regardless of medical specialty.

Key messages:

- Involuntary hospitalisation rates vary greatly across Europe, but the effects of this phenomenon have been poorly studied. We propose a more unified approach to maximise the efficacy of such a law.
- We advocate for a more thorough education of health professionals on mental illnesses, regardless of medical specialty, in sight of the growing prevalence of such diseases.

Abstract citation ID: ckae144.2249
Active aging, autonomy, and mental health among older adults with chronic illness - focus on optimism

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Background: In the active aging framework, the focus has shifted to the quality of life of the elderly, where autonomy plays an important role. Chronic illnesses often lead to autonomy limitations, impacting activities of daily living (ADL) and increasing the risk of depression. Fostering an optimistic outlook can mitigate depression's severity and promote healthy aging.

Methods: The data is from a cross-sectional survey in Hungary (n = 832). 60,1% of the sample had at least one chronic illness. Measurements included the EQ-5D-5L, Mental Health Continuum-SF, Life Orientation Test, and the Geriatric Depression Scale.

Results: We found worse mental health ($p = 0{,}024$), lower levels of optimistic outlook ($p = 0{,}002$), and higher levels of depression ($p < 0{,}001$) among those who reported ADL limitations. ADL limitations (ß = -0,27, $p < 0{,}001$) showed the strongest association with perceived health status, followed by mobility (ß = -0,22, p <; 0,001) and self-care (ß =-0,14, $p < 0{,}001$). Considering mental health, only ADL limitations (ß = -0,15, $p < 0{,}001$) were a significant predictor from the above-mentioned dimensions. Additional analysis showed that depression affected mental health both directly (effect = -1,90, $p < 0{,}001$) and indirectly, mediated by an optimistic outlook (effect = -0,88).

Conclusions: 1. Limitations in autonomy were negatively linked to perceived health status and mental health. 2. The optimistic orientation toward life can mediate the association between depression and mental health among the elderly with chronic conditions. 3. The Implications of the results could enlighten the necessity of preventive initiatives on autonomy preservation and enhance an optimistic outlook to maintain healthy aging and a favorable quality of life.

Key messages:

- Preventive interventions focusing on health-preserving behaviors could be designed for specific groups with a higher risk of ADL limitations in the future.
- Optimism could mediate depression's impact on the mental health of the elderly with chronic illnesses, suggesting that interventions should target enhancing optimism for improving active aging.

Abstract citation ID: ckae144.2250
Recovery of Executive Functions in Alcohol Use Disorder: role of Neuropsychological Rehabilitation

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Background: Alcohol Use Disorder (AUD) is a growing public health concern with high incidence of executive functions (EFs) changes, affecting disease progression and treatment effectiveness. Inconsistencies persist in studies on the role of neuropsychological rehabilitation (NR) in EF recovery within AUD interventions. Our aim is to analyse the effect of NR on EFs in AUD interventions.

Methods: A prospective cohort study included 65 participants of both sexes, diagnosed with AUD, free of psychiatric comorbidities or severe neurological conditions. They underwent alcohol detoxification in hospital/home from 2021 to 2023, completing three evaluation moments (M1-Baseline, M2-3 months, M3-6 months). Patients receiving usual treatment (WTG-weekly therapeutic groups) - were compared to those with additional Neuropsychological Rehabilitation (NRG) regarding Sociodemographic and Severity of Alcohol Dependence Questionnaires, Hospital Anxiety and Depression Scale, Frontal Assessment Battery (FAB), Number and Letters Subscale of Weschler Adult Intelligence Scale (WAIS). Our main outcome was FAB-general executive functioning, and secondary outcome was WAIS-working memory. Friedman test compared assessments across the three points (alpha 5%).

Results: Statistically significant differences were found for FAB in both groups, ($p < 0.001$) between M1 and both M2 and M3, indicating improved executive functioning, particularly in NRG. Working memory also improved in both groups (WTG: $p = 0.036$; NRG: $p < 0.001$), with NRG showing better M2 performance.

Conclusions: There is evidence that neuropsychological rehabilitation facilitates the recovery of executive functions and may play a pivotal role in relapse prevention. It is crucial that the treatment of these situations incorporates public health, preventive and damage minimization measures.

KeyWords: Executive Function; Neuropsychological Rehabilitation; Alcohol Use Disorder.

Key messages:

- Recovery of executive functions is crucial from a Public Heath perspective in AUD populations, minimizing morbidity, permanent disabilities and contributing to more effective healthcare services.
- Integrating Neuropsychological Rehabilitation into standard Alcohol Use Disorder treatments can enhance treatment effectiveness, reducing disease burden.

Abstract citation ID: ckae144.2251
Approaches to Dementia Control in a Community in Japan

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Background: In order to consider future dementia countermeasures in the community, we conducted a survey to understand the characteristics of the elderly living in the community.

Methods: A self-administered questionnaire survey was conducted in collaboration with Hanno-city, Saitama Prefecture, targeting all persons aged 65 years or older (excluding institutionalized residents) living in Hanno-city (aging rate: 32.0%). The questionnaire items included basic attributes, lifestyle, daily living conditions, and willingness to participate in activities. The survey was sent to 7,133 people, and 3,623 valid responses were received (valid response rate: 50.8%).

Results: Respondents were 1,135 males (51.2%) and 1,080 females (48.8%); 1,979 (54.6%) were aged 65-74 and 1,644 (45.4%) were aged 75 and over. The proportion of single-person households was 12.1%. 56.1% of the respondents had been living in the community for 30 years or more, and the overall membership rate of the residents' association was high at 91.0%. A total of 691 (19.1%) of the respondents had seen someone suspected of having dementia. 1,178 (32.5%) answered 'yes,' 1,452 (40.1%) answered 'no,' and 881 (24.3%) answered 'don't know. There were 472 (8.1%) dementia supporters.

Conclusions: The membership rate of local residents' associations was high at 91.0%, indicating that the community maintains relatively close relationships with its residents. Based on the National Dementia plan, further consideration will be given to long-term goals such as human resource development for each region and policies to support these goals. Main messages: In a mountainous district with an aging population similar to that of Japan as a whole, only about one-third of the respondents knew of a contact point for dementia-related issues. Based on the National Dementia Plan, the government will consider dementia policies, including long-term goals and policies to support these goals in the community.

Key messages:

- In a mountainous district with an aging population similar to that of Japan as a whole, only about one-third of the respondents knew of a contact point for dementia-related issues.
- Based on the National Dementia Plan, the government will consider dementia policies, including long-term goals and policies to support these goals in the community.

Abstract citation ID: ckae144.2252
Anxiety, depression, and poor sleep quality in COVID-19 survivors of the first year of the pandemic

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Background: Psychological outcomes after SARS-CoV-2 infection have been reported primarily among patients with post-COVID-19 condition followed at COVID-specific clinics who may not represent the population of COVID-19 survivors. This study compares the frequency, 2 years after infection, of symptoms of anxiety and depression and poor sleep quality between COVID-19 survivors from the first year of the pandemic and comparison groups matched for sex, age, and level of care.

Methods: Participants are users of the Local Health Unit of Matosinhos (comprising almost all citizens of this municipality) classified according to hospitalization and SARS-CoV-2 infection between March, 2020 and February, 2021 in 4 groups: group#1, hospitalized due to COVID-19 ($n = 101$); group#2, hospitalized, uninfected ($n = 87$); group#3, infected, non-hospitalized ($n = 252$); group#4, uninfected, non-hospitalized ($n = 258$). They were evaluated between July, 2022 and October, 2023, with the Hospital Anxiety and Depression Scale (HADS-A, anxiety, and HADS-D, depression) and the Pittsburgh Sleep Quality Index (PSQI). Logistic regression was used to compute OR and 95%CI adjusted for sex, age, education, marital status, employment, smoking, and level of care of the associations between the study group and clinically significant symptoms of anxiety (HADS-A scores>10), depression (HADS-D scores>10) and poor sleep (PSQI scores>5).

Results: No significant differences ($p < 0.05$) were observed for the prevalence of clinically significant symptoms of depression (overall 9.2%) and poor sleep quality (overall 59.8%) between SARS-COV-2 infected participants and comparison groups, but HADS-A scores>10 were more frequent in infected individuals (19.3% vs. 13.6%; OR = 1.92; 95%CI:1.21,3.05).

Conclusions: Healthcare services should pay special attention to COVID-19 survivors from the first year of the pandemic to identify and treat anxiety symptoms. Funding: FCT UIDB/ 04750/2020 LA/ P/0064/2020 PTDC/SAU-EPI/6275/2020

Key messages:

- COVID-19 survivors from the 1st year of the pandemic present more frequently high levels of anxiety than the general population 2 years after COVID-19.
- Specific care for anxiety symptoms are needed for COVID-19 survivors from the 1st year of the pandemic

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Abstract citation ID: ckae144.2253
Factors affecting ageism and depression levels in individuals aged 65 and over living in society

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Background: The aging process is perceived negatively by some people. This perception prevents/reduces the happiness that can be gained from the aging process. As a result, depressive symptoms may occur. Therefore, this study aimed to examine the factors affecting ageism and depression levels in individuals aged 65 and over living in society.

Methods: The sample of the research, which was conducted with a cross-sectional, descriptive design, consisted of 287 individuals aged 65 and over living in a neighborhood on the Anatolian side of Istanbul. Data were collected with socio-demographic form, Ageism Questionnaire and Yesavage Geriatric Depression Scale-15. T test, variance analysis and chi-square test were used to analyze the data. Ethical permissions were obtained.

Results: Moderate depression was found in 27.5% of individuals with a mean age of 70.80±5.42. Individuals scored below the average (18.48±8.14) on the ageism survey. Ageism scores were higher for men, those aged 85 and over, those with poor economic conditions, those with chronic diseases, those hospitalized in the last year, those with severe and moderate depression, and those who needed help with daily tasks ($p < 0.05$). A statistically significant difference was found between age groups, chronic disease, continuous medication use, hospitalization in the last year, working status, need for help with daily tasks, economic status and depression levels ($p < 0.05$). Ageism scores of those with severe and moderate depression were found to be high ($F = 3.43$;$p = 0.017$).

Conclusions: Variables that are effective in ageism and depression are being aged 85 and over, having a poor economic situation, having a chronic disease, needing help with daily tasks, and receiving inpatient treatment in the last year. The results of this study show that more efforts and resources are needed within the scope of political and social services to reduce ageism in society and the level of depression in older individuals.

Key messages:

- As the level of depression in elderly individuals increases, ageism increases.
- Advanced age, economic status, chronic disease, hospitalization and dependence on daily tasks affect depression and ageism.

Abstract citation ID: ckae144.2254
Integrated models for concurrent disorders from a Public Mental Health lens: a Systematic Review

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Concurrent disorders (COD), historically defined by the World Health Organization as the simultaneous presence of a psychoactive substance use disorder and another psychiatric disorder within the same individual, pose a significant challenge to public mental health. In today's global landscape of mental health services, the prevalence of COD is on the rise, underscoring the need for an integrated approach to management. This review aims to provide an overview of existing global models and the evaluation approaches. This systematic review examined research evidence in PubMed, Scopus and Web of Science up to 2023 regarding integrated management systems for COD. Following PRISMA guidelines, we included articles describing specific models and evaluating the effectiveness of integrated versus non-integrated approaches. Quality assessment was conducted using the appropriate scales. Out of 7700 screened articles, 18 were included, all of fair or good quality. A diverse array of patient care models, programs, and interventions addressing comorbidities between mental health and substance use disorders emerged. The majority of studies focused on clinical outcomes, particularly alcohol and drug dependence, with global mental health consequences also under examination. Psychodiagnostics and social outcomes were also considered in a significant portion of the research, shedding light on health services utilization patterns. The integrated model for concurrent disorders in psychiatry stands as an effective approach, yet its implementation encounters challenges. This study showcases successful integration examples, providing valuable insights for policymakers and healthcare professionals to enhance existing models or develop new ones, particularly within European healthcare reforms like Italy's restructuring of primary care, where they could serve as a criterion for the setting and organization of community houses.

Key messages:

- COD, involving both substance use and psychiatric disorders, present a significant challenge to public mental health. Rising prevalence underscores the need for integrated management approaches.
- Insights from successful integration examples offer valuable guidance for healthcare professionals and policymakers, particularly within healthcare reforms like Italy's restructuring of primary care.

Abstract citation ID: ckae144.2255
Examining the link between age of alcohol initiation, adolescent alcohol use and adult substance use

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Background: Understanding the relationship between adolescent alcohol use and adult substance use is important for prevention programmes. Existing evidence presents divergent findings and potential mechanisms are debated.
Methods: We estimated associations between the age of alcohol initiation and alcohol use at age 17 and substance use at age 20 in a nationally representative cohort ($n = 4554$). Weighted logistic regression models were fitted using Generalised Estimating Equations in multiply imputed and complete case data.
Results: Our analysis identified that 27% of participants reported first alcohol use at ≤ 14 years old, with 37% engaging in risky alcohol use by age 17. At age 20, 14% reported hazardous alcohol use, while 38% used tobacco, 24% cannabis, and 28% other drugs. The age at which alcohol was initiated and risky alcohol use at 17 years old were both strongly associated with alcohol, tobacco, cannabis and other illicit drug use at 20 years old. Sequential change in effect estimates coupled with non-overlapping confidence intervals suggest a dose-response relationship between age of alcohol initiation and tobacco and other drug use at age 20.
Conclusions: First use of alcohol at 14 or younger was common. Earlier alcohol initiation and risky alcohol use are each associated with substantially elevated risk for substance use at 20 years old even after accounting for common liability factors. Acknowledgement: Growing Up in Ireland (GUI) is funded by the Department of Children, Equality, Disability, Integration and Youth (DCEDIY). It is managed by DCEDIY in association with the Central Statistics Office (CSO). Results in this report are based on analyses of data from Research Microdata Files provided by the CSO. Neither the CSO nor DCEDIY take any responsibility for the views expressed or the outputs generated from these analyses.

Key messages:

- Delaying alcohol initiation and preventing risky alcohol use during adolescence may reduce levels of substance use in young adults.
- Self-reported early use of alcohol remains common.

Abstract citation ID: ckae144.2256
The Relationship Between Mental Health Status and Daily Step Count in Adults: A Cross-Sectional Study

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Aim: This study was conducted to determine the relationship between the mental health status and daily step count of adult individuals.
Methods: The research was conducted between November 2023 and April 2024 with a descriptive cross-sectional design. The research population consisted of 386 individuals over the age of 18 who voluntarily filled out public electronic forums on online platforms. Data were collected with the socio-demographic characteristics diagnostic form consisting of 21 questions, the average number of steps in the last week, and the General Health Survey-28 (GHQ-28). Data were evaluated using descriptive statistics, normality statistics, analysis of variance (ANOVA), t test, Kruskal Wallis variance analysis, Mann-Whitney U test. Statistical significance level was accepted as $p < 0.05$
Results: GHQ-28 total score average was found to be 5.59 ± 6.52. 42.0% of the participants received a score of 5 or above on the GHQ-28 and were considered at risk for mental health. The individuals' average weekly step count was mean=5269±3065 steps and 43% were basal-limited active. According to GHQ-28, the average weekly step count of individuals in the mental health risk group (4528.62 ± 2892.31) was lower than those who were not at risk (5804.63 ± 3081.67) ($p < 0.05$). According to step count categories, individuals who were basal-limited active (51.2%) and low active (39.4%) were found to be at higher risk for mental health than those who were slightly active (36.0%) and active-highly active (18.4%) ($p < 0.05$). A weak negative correlation was found between the average number of steps and the scores obtained from the GHQ-28 ($r = -.187$; $p = 0.000$).
Conclusions: It was determined that more than half (51.2%) of the individuals (42.0%) in the risk group in terms of mental health were sedentary, that is, basal-limited active (less than 2500-4999 steps).

Key messages:

- Increasing awareness about the positive effects of individuals' daily step counts on mental health can contribute positively to the promotion of health.
- As part of policies aimed at enhancing mental health within society, implementations directed towards increasing daily step counts can contribute positively to the improvement of public health.

Abstract citation ID: ckae144.2257
Public health prevention programmes for mental illness in school-age children and adolescents

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Background: Psychiatrists, psychotherapists and other mental health professionals have long stated the importance of adequate social groups and early intervention for the prevention of severe mental diseases. With psychiatric illness incidence increasing most in the adolescent and young adult populations, we propose the use of school-age directed public mental health initiatives to combat remaining social stigma and promote mental wellbeing, as well as educate children and adolescents in how to recognise symptoms and ask for help.
Methods: We conducted a systematic review on PubMed as well as government and NGO websites to identify public health initiatives in the prevention and early identification of mental illness among young individuals.
Results: Preliminary results show that, while certain countries have delineated guidelines on how to support students' mental health, very few have implemented nation-wide, or even region-wide programmes that directly target prevention and education. A particular note should be made regarding substance abuse and addiction, one of the few illnesses for which many countries have already enacted in-school programmes, that however often overlook the medical aspect of such diseases. Of further note are certain local programmes aimed at offering quality and accessible care to adolescents struggling with mental diseases.
Conclusions: With psychiatric diseases projected to become one of the greatest contributors to the global burden of disease by 2030, and the importance of early intervention in preventing severe psychiatric illness, we advocated for European public health initiatives implemented in schools, which could be crucial in curbing the spread of mental illness.

Key messages:

- Adolescent and young adults are those most affected by the rising prevalence of mental illness. Consequently, we advocate for in-school programmes to aid in early identification and intervention.
- Early identification of mental diseases is crucial in the prevention of severe psychiatric illness, but little has been done so far in terms of public health interventions to tackle such problems.

Abstract citation ID: ckae144.2258
Systematic review of burden&quality of life in caregivers of children with schizophrenia (SyREN)

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Background: Schizophrenia is a chronic, disabling disorder that affects 23.6 million people worldwide, with patients often needing extensive assistance and care. Main caregivers are frequently family members who may present a reduced quality of life (QoL) due to the high-level burden of care. Literature mostly focuses on the burden caused by other mental disorders or by schizophrenia in both the adult and child population. We aim to assess the burden and QoL in caregivers of children and adolescents with schizophrenia.

Methods: We conducted a Systematic Review of articles published between 2013 and 2023 on MEDLINE, Scopus, Web of Science, APA PsycARTICLES, CINAHL. We included studies in which a validated instrument was used to measure the burden of caregiving and QoL for adult caregivers of children and adolescent schizophrenic patients. The results were reported following the PRISMA guidelines.

Results: We identified 1388 studies. We removed 610 duplicates. After screening 788 studies on title and abstract and 52 for full-text, we included one cross-sectional study in China based on the STROBE Checklist. Significant correlations between burden of care and schizophrenia severity, children's age, period of care, education, sex, residence, and income were reported. Additionally, we screened 7 qualitative studies. Social stigma and struggle were the most frequently reported feelings, and financial burden was the most common external factor associated with a worse quality of life.

Conclusions: This review revealed a significant research gap in this field. This lack of focused research underscores the urgent need for targeted investigations into the experiences of caregivers of children and adolescents with schizophrenia. Addressing these knowledge gaps will improve support systems and interventions tailored to the unique needs of this population, such as disease-specific advisory, mental health services, social and financial support, and self-help groups.

Key messages:

- We identified a research gap for burden and quality of life in informal caregivers of children with schizophrenia. Education, sex and income of caregivers relate to the burden of care.
- Further research is needed to develop strategies to improve support systems and interventions tailored to the unique needs of this population.

Abstract citation ID: ckae144.2259
Beyond Numbers: Investigating the Impact of COVID-19 on Suicide Rates in Austria

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During the COVID-19 pandemic, individuals' mental health faced substantial challenges. This study aims to provide a comprehensive examination of the pandemic's impact on suicide rates in Austria, with a particular focus on variations by gender, region, and age. The study employs a regression discontinuity in time design and an interrupted time series analysis, utilising monthly death records from January 2015 to December 2021. To account for seasonal variations and potential underreporting of suicides, harmonic Fourier terms are incorporated into the analysis, and both suicides with intended self-harm and self-harm with undetermined intent are included. While existing research offers valuable insights into the impact of the pandemic on suicidal behaviour, it does not yet allow for specific conclusions to be drawn for Austria. In contrast to the methods typically employed in previous research on other countries, this approach enables a comprehensive examination of the temporal effects surrounding the implementation and lifting of pandemic-related measures. The study reveals a significant negative trend in Austria's suicide rates before the start of the pandemic and more suicides than expected after its onset. In particular, the number of suicides among men aged 64-85 and women in the age groups 0-19, 20-34, and 65-84 was significantly higher than expected. Conversely, the data indicated a positive impact among women aged 35-64. This study contributes to understanding the impact of the pandemic on suicide rates in Austria. It demonstrates that, even within the same country, the impact can differ by gender, age, and region, thereby supporting the need for subgroup analysis. It also highlights that potential underreporting of suicides may result in an underestimation of the impact of the pandemic on suicides in previously conducted studies. Understanding these nuances is crucial for suicide prevention and informing policy decisions to improve health system resilience.

Key messages:

- The study found higher than expected suicide rates in Austria during the COVID-19 pandemic, especially among men aged 64-85 and women aged 0-19, 20-34, and 65-84.
- The underreporting of suicides may result in an underestimation of the impact of COVID-19 on suicides in previously conducted studies.

Abstract citation ID: ckae144.2260
Sense of community, life satisfaction and psychological distress among seniors – HUNT4 study, Norway

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Background: Strong sense of community with one's neighbors may benefit psychosocial well-being. Moreover, local communities with high level of belonging and social cohesion can have a positive impact on public mental health. This study aims to investigate associations between sense of community and life satisfaction - at both an individual and local community level in a Norwegian county.

Methods: Data from Trøndelag Health Study 4 (HUNT4: 2017-2019) on 22 939 participants were linked to geographic data of residence from Statistics Norway. The basic statistical unit in Norwegian, known as "grunnkrets," serves to identify participants' local communities. These units are subdivisions of municipalities, covering geographically contiguous areas that typically include a few hundred inhabitants. This population-based study enables investigation of variation in sense of community, trust, life satisfaction and psychological distress on individual and community level.

Results: Seniors (median age 70.3 years) with strong sense of community with their neighbors had more than three times higher odds (95%CI 3.08-3.93) of high level of life satisfaction and less than 0.3 times lower odds (95%CI 0.26-0.33) of psychological distress symptoms vs those with low sense of community, adjusted to sociodemographic variables. The average sense of community varied between local communities (N = 284). At this local geographical unit, strong sense of community was associated with high level of trust, enjoying the neighborhood and high life satisfaction.

Conclusions: The study can inform public health policy to consider development of social infrastructures that bolster sense of community among seniors within neighborhoods. Policy and action plans targeting to increase the overall sense of community in neighborhoods may contribute to create mental health-promoting and age-friendly local communities in Norway.

Key messages:

- At individual level, sense of community with neighbors are associated with life satisfaction and psychological distress among Norwegian seniors.
- The average sense of community varies between geographic local areas and are associated with level of trust, enjoying the neighborhood, average life satisfaction, and psychological distress.

Abstract citation ID: ckae144.2261
Focus on residents' mental health: the Public Health Residents' Anonymous Survey in Italy (PHRASI)

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The 'Public Health Residents' Anonymous Survey in Italy" (PHRASI) represented the first study to specifically investigate mental health and its determinants among Italian public health residents (PHRs). Using a voluntary, anonymous, electronic, 88-item questionnaire, the PHRASI study generated evidence on well-being, eating disorders, sleep disorders, alcohol abuse, depressive symptoms, and anxious symptoms among PHRs. This highlights the correlation with sociodemographic, lifestyle, and work-related characteristics during COVID-19 pandemic. The data was collected in a nationally representative sample of PHRs enrolled in any of the four course years of Italian Public Health schools. The recruitment took place through the communication channels of the Medical Residents' Council of the Italian Society of Hygiene and Preventive Medicine in the summer 2022. The key findings reveal prevalence rates of mental health conditions comparable to those seen in other healthcare workers during the COVID-19 pandemic: 61% of residents report depressive symptoms and 36% report anxious symptoms. The study also highlights a negative correlation of these symptoms with characteristics of the training and working environment, such as the level of supervision and peer-to-peer support. A stronger social network and higher levels of physical activity emerged to be positively associated with well-being and depression. These and other findings will be available in the final report of the survey that will be presented during the congress. PHRASI led the way to the Residents' Mental health Investigation, a Dynamic longitudinal study in Italy (ReMInDIt), that aims to explore potential cause-effect relationships between risk/protective factors and mental health outcomes. This evidence could guide the scientific community, school directors, universities, and policymakers in the continuous process of improving the educational quality and working conditions of PHRs.

Key messages:

- Residency training and work environment impact the mental health of the PHR workforce.
- It is important to deploy concrete efforts into building healthy work environments and guarantee adequate training for PHRs.

Abstract citation ID: ckae144.2262
Social inequalities in the prevalence and treatment of depressive symptoms in Czechia

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Background: Depressive symptoms are associated with achieved socioeconomic status (SES) in men and women. The aim of the analysis is to verify this association between severity of depressive symptoms and socioeconomic status in the Czech context. Another aim is to examine the use of psychiatric and psychological treatment among men and women.

Methods: The data come from the 2019 European Health Interview Survey (EHIS). The Patient Health Questionnaire (PHQ-8) was used to measure the symptoms and severity of depressive symptoms among respondents. Participants were aged 20 and above and resided in households. Binary logistic regression was used to test the relationship for using of treatment and depressive symptoms.

Results: The weighted prevalence of mild depressive symptoms is determined to be 10.5% (8.0 % in men; 12.8% in women), with severe depressive symptoms recorded at 3.1% (2.6% in men; 3.7% in women) within the Czech population. The psychiatric or psychological treatment is utilized by 3.8% (2.8% in men; 4.7% in women) of the Czech population. Respondents with severe depressive symptoms (37.4%) use care the most, followed by those with mild symptoms (11.9%), and the least by those with none (1.6%). Individuals with tertiary education utilize treatment the most among respondents with moderate and severe depressive symptoms. Respondents differ in the utilization of treatment; however, after stratifying the model only for respondents with mild or severe depressive symptoms, these respondents do not differ in the utilization of treatment.

Conclusions: SES level is reflected differently in the prevalence and severity of depressive symptoms for men and women. But no difference was found in the use of psychiatric or psychological care in men and women. A treatment gap was found for depressive symptoms in the Czech population.

Key messages:

- The results confirmed the relationship between the utilization of care and depressive symptoms.
- It was revealed that respondents did not differ in the utilization of care after the stratification.

Abstract citation ID: ckae144.2263
Digital strategies of public youth mental health services to raise awareness of their existence

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Background: Data from a survey of the first part of the eHealthLit4teen Project show that adolescents in the city of Barcelona (12-16 years old) are not aware of the public youth mental health services (YMHS) available in the city. Considering the intensive use that young people make of digital platforms, YMHS might leverage these channels to raise young people's awareness of available resources, which would impact on the help-seeking behaviours. The aim of this work is to analyse the social media strategies for the dissemination of public YMHS and emotional well-being services (promoted by the city council and the regional government) in Barcelona.

Methods: Identification of public YMHS and emotional wellbeing services, and interview on the use of social networks for dissemination with those responsible for the services and communication (March-April 2024). Analysis of the use of persuasive design and behavioural design techniques by the social media profiles of these services and, by way of contrast, the influencers who publish mental health content identified by the adolescents in the previous survey of the Project (March 2023).

Results: Public YMHS mainly rely on outreach through face-to-face visits to high schools. This format makes it easier for reluctant young people to access formal support, but more difficult for them to seek support because of stigma. In general, public YMHS do not show a clear strategy to disseminate their service on social media, and the information provided confusion between the characteristics of the services offered. Likewise, there is no widespread use of behavioural design or persuasive design techniques in the publications of health services on social media, nor in those of influencers.

Conclusions: Public YMHS do not make efficient use of the digital platforms that young people use intensively to raise awareness of their existence and increase usage.

Key messages:

- There is no clear digital strategy for communicating public youth mental health services (YMHS), although they recognise that digital platforms can be a good means of dissemination.
- YMHS need to be accessible on digital platforms to young people's adults of reference (especially for younger teens), as they are the ones who seek out online the existence of this type of services.

Abstract citation ID: ckae144.2264
Factors predicting a decrease in suicidality among young people (0-28 years old)

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Background: Suicide, self-harm and suicidal thoughts (i.e., suicidality) are important public health concerns. Most youth that experience suicidality find a way to overcome these affronts. Preventative public health measures require an understanding of factors that can help youth overcome their suicidality.

Methods: Data come from a Dutch prospective birth-cohort study that surveyed youth from age 11 to 28 (measurements 2-3 years apart). We determined the proportion of youth that experienced suicidality across seven waves and focused on changes in suicidality, and factors associated with changes in suicidality using linear discriminant analysis. We examined a mix of individual, family, peer and socio-cultural factors in line with an ecological framework, e.g. the Interpersonal Theory of Suicide.

Results: Between 4-8% of youth experienced suicidal thoughts and between 2-5% experienced self-harm across time points. Most youth (89%-94% across time points) did not experience changes in suicidality, while between 3-6% experienced a decline of suicidal thoughts and between 2-4% a decline in self-harm across time points. Discriminant analyses could correctly identify ≈90% of subgroup per case (decline, increase, stable suicidality). But, the model was not very accurate in predicting which youth belonged to the declining suicidality subgroup. Functions with best predictive ability indicated the importance of interpersonal factors; belonging to peers, parents, classmates, teachers and religion. Also, overall happiness and positive changes in romantic relationships and family had predictive value.

Conclusions: It remains difficult to distinguish youth who experience a decrease in suicidality. Interpersonal factors may play a role in changes in suicidality, but we need to identify new factors related to declines in suicidality. Future prospective birth-cohort study should consider including factors that may be better predictors of decreases in suicidality and mental health in general.

Key messages:

- Factors that contribute to decreases in suicidality will enrich suicide prevention strategies, which have until thusfar mostly been informed by a risk perspective.
- Interpersonal factors might play an important role in changes in suicidality among youth, which indicates we need an ecological perspective on suicidality rather than an individual perspective.

Abstract citation ID: ckae144.2265
Examining Lifestyle Risk Factor Clusters and Mental Health in Adults

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Background: Lifestyle risk factors often cluster, impacting both physical and mental health. Studies reveal bidirectional relationships between lifestyle factors and health. The aim of this study is to examine the relationship between mental health problems, self-reported depression, and lifestyle risk factors in a sample of the adult population in Turkey.

Methods: 2022 Turkey Health Survey (THS) data were used. The sample group was made using cross-sectional data of approximately 22742 individuals in the adult population over 15 years of age. Two-stage clustering method was used to determine vital risk factor clusters. Regression analysis was used to determine the relationship between vital risk factor clusters and self-reported depression and mental health problems.

Results: Lifestyle risk factors were grouped into 4 clusters. It was observed that unhealthy diet, inadequate physical activity, and smoking, which are modifiable lifestyle risk factors, were together in the clusters. It was also observed that self-reported depression and mental problems were more associated with clusters with more than one lifestyle risk factor. In addition, women, married individuals, and individuals over 65 years of age were more associated with mental problems.

Conclusions: As a result of the findings, there was an association between people with mental problems and lifestyle risk factors such as smoking, unhealthy diet, and insufficient physical activity. These findings may help to plan and implement more effective health policies and individual interventions targeting groups with multiple lifestyle risk factors in the future.

Key messages:

- The target group was determined to improve community mental health and to make necessary interventions.
- Since inadequate physical activity, which is one of the vital risk factors, and unhealthy nutrition and smoking tend to cluster together, it was determined that these problems should be prioritised

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Abstract citation ID: ckae144.2266
Smartphone addiction among medical students in the University of Monastir, Tunisia

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Background: Smartphone addiction is a global mental health issue with diverse psychological and socioeconomic concerns. The aim of this study was to determine the prevalence of smartphone addiction and its associated factors among medical students in the university of Monastir, Tunisia.

Methods: We conducted a cross-sectional survey among medical students of the faculty of medicine of Monastir in October 2020. The data were collected through a self-administered anonymous questionnaire that included the SAS-SV scale to assess smartphone addiction levels. A multivariate logistic regression model was employed to identify associated factors. The threshold of statistical significance was set at $p < 0.05$.

Results: A total of 626 medical students participated in this study, with an average age of 21.76 ± 3.12 years and a sex ratio of 0.41. The prevalence of smartphone addiction was 30.2% (95% CI: 26.0% - 33.79%). Associated factors with smartphone addiction included academic repetition(OR = 4.30; 95% CI [1.38 - 13.42]), fast food consumption scores (OR = 1.55; 95% CI [1.21 - 2.00]),addiction to the Facebook social network (OR = 6.36; 95% CI [1.92 - 21.07]), cohabitation with colleagues (OR = 2.13; 95% CI [1.03- 4.43]), cohabitation with family members(OR = 2.10; 95% CI [1.01 - 4.36]) and stress level (OR = 1.13; 95% CI [1.07 - 1.18]).

Conclusions: This study identified associations between smartphone overuse and other behavioral and mental health indicators. Based on these findings, several interventions should be undertaken to address this growing concern.

Key messages:

- The prevalence of smartphone addiction among medical students in the University of Monastir was 30.2% (95% CI: 26.0% – 33.79%).
- The main associated factors with smartphone addiction were academic repetition, fast food consumption, addiction to Facebook, cohabitation with colleagues and with family members and stress level.

Abstract citation ID: ckae144.2267
Psychological Capital Promotion in Universities

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Background: The rise in student depression and anxiety highlights a crucial intersection between education and public health. Academic pressures intensify mental health issues, necessitating comprehensive strategies to address them.

Objectives: This study assessed the effectiveness of a Psychological Capital (PsyCap) intervention in enhancing university students' PsyCap and reducing anxiety, aligning with broader public health education goals.

Methods: A randomized controlled trial was conducted, where students either received a PsyCap intervention or were placed on a wait-list. The intervention, based on Luthans et al.'s guidelines, was delivered online and included self-reflection, goal-setting, and resource assessment.

Results: Post-intervention, the PsyCap of students in the intervention group significantly increased (M = 1.098, SD = 0.24, CI [0.98, 1.21], t(17) = 19.72, p < .001). There was also a significant reduction in GAD scores (M = -0.24, SD = 0.46, CI [-0.47, -0.01], t(17) = -2.19, p = .043). No significant changes were observed in the control group.

Conclusions: Short-term PsyCap interventions can significantly improve students' mental resilience and decrease anxiety, suggesting their integration into educational curricula. This study underlines the need for educational and public health sectors to collaborate in mitigating mental health issues among students, particularly in response to crises like COVID-19. Addressing the rising anxiety among students through brief, online PsyCap interventions shows promise. This approach not only enhances PsyCap but also lowers anxiety, advocating for their regular inclusion in educational settings to support student mental health.

Key messages:

- Results from a controlled trial revealed increases in PsyCap and decreases in anxiety.Findings advocate integrating such interventions into educational curricula promoting student mental health.
- Recent trends indicate a rise in anxiety among students, challenging both educational and public health. Addressing this, the study evaluated the impact of a brief online (PsyCap) intervention.

DX. Poster display: Sexual and gender minority health

Abstract citation ID: ckae144.2268
Population trends and demographic disparities in sexual identity in Stockholm County, 2010 to 2021

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Background: Sexual identity, linked to experiences of disadvantage and discrimination, is crucial in equality monitoring. Sweden's gender-neutral marriage laws, introduced in 2009, provide a unique context. This study examines the population trends and demographic disparities in sexual identity over time.

Methods: We analyzed three population surveys (2010, 2014, 2021) from the Stockholm Public Health Cohort, including around 50,000 individuals per survey. Sexual identity was assessed via self-administered questionnaires. Demographic data were sourced from Swedish national registers. Weighted multivariate Poisson regression with robust variance estimators was used to identify demographic disparities in sexual identity. Results were presented as proportion ratio (PR) with 95% confidence interval (CI).

Results: Overall, 29,607 (2010), 20,249 (2014), and 22,558 (2021) individuals reported sexual identity. Heterosexual identity decreased from 95.7% (95% CI 95.4-96.0%) in 2010 to 89.0% (88.5-89.4%) in 2021, while bisexual identity increased from 1.4% (1.2-1.6%) in 2010 to 2.0% (1.8-2.3%) in 2014, and further up to 2.7% (2.4-2.9%) in 2021. Homosexual identity increased slightly from 1.5% (1.4-1.7%) in 2010 to 1.8% (1.6-2.0%) in 2021. Multivariate analyses showed that female, older age, and lower education were inversely associated, while never-married status and living alone were positively associated, with homosexual identity. In contrast, female, younger age, lower income (100 SEK/year) ($< =$2,500 vs $>$4,500: 2010: PR 3.32 [95% CI 1.92-5.75]; 2014: 1.83 [1.28-2.60]; 2021: 1.51 [1.14-2.01]), and never-married status (never vs currently married: 2010: 2.03 [1.47-2.80]; 2014: 1.92 [1.39-2.65]; 2021: 1.50 [1.15-1.95]) were positively associated with bisexual identity.

Conclusions: Heterosexual identity decreased while homosexual/bisexual identities increased in Stockholm County during 2010-2021. Socioeconomic disparities persist in sexual minorities and vary by sexual identity.

Key messages:

- Marked socioeconomic disparities persist in sexual minorities and vary by sexual identity in Stockholm County, although income and marital status disparities in bisexual group seem narrowing.
- Future studies are warranted to investigate the social dynamics that continue to produce sexual minority disadvantages.

Abstract citation ID: ckae144.2269
Alcohol consumption and risky sexual behaviours: consistent patterns in France and South Korea

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Background: Despite the concurrent increase in harmful alcohol use and risky sexual behaviours associated with STIs and HIV/AIDS among young adults, their relationship remains inconsistent due to the inherent influence of sociodemographic and cultural factors on drinking and sexual practices. This study aims to examine the relationship between alcohol consumption and risky sexual behaviours and cross-validate this relationship in France and South Korea.

Methods: We conducted a cross-sectional survey among young adults aged 18 to 30 in France and in South Korea in 2023-2024 ($n = 998$; 489 in France, 509 in Korea). A spearman partial correlation and a z-test on Fisher-transformed correlation coefficients were used to determine the relationship between alcohol use and risky sexual behaviours, as well as the consistency of this relationship across both samples.

Results: After controlling for age, gender, occupation, education, and perceived socioeconomic status, a positive correlation was found between the age of alcohol initiation and the age at first sexual intercourse in both samples (r=.17 in France, r=.28 in Korea; $p < 0.001$). Alcohol Use Disorder Identification Test (AUDIT) score and the frequency of drunkenness showed positive correlations with the number of sexual partners (r=.19, r=.26 in France; r=.19, r=.23 in Korea; $p < 0.001$). These two alcohol use indicators were also correlated with the frequency of inconsistent condom use (r=.15, r=.12 in France; r=.06, r=.14 in Korea; $p < 0.001$). The Z test confirmed that there is no significant difference in all correlation coefficients between the French and Korean samples. ($p > 0.05$, 95% CI).

Conclusions: An integrated health intervention aimed at simultaneously addressing harmful alcohol use and risky sexual behaviours is warranted to prevent high prevalence of sexually transmitted infections among young adults.

Key messages:

- Recent data support that alcohol use is associated with risky sexual behaviours among young adults.
- This relationship is consistent regardless of different sociodemographic and cultural settings.

Abstract citation ID: ckae144.2270
Bridging gaps: A closer look at the health of sexual and gender minorities in Austria

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Austria has long lacked comprehensive data on the health and well-being of sexual and gender minorities (SGMs). The 2022 LGBTIQ+ Health Report addresses this gap by presenting a comprehensive overview of the health status of SGMs in Austria. To contextualize SGM health issues, a review of the literature, health surveys, and action plans across Europe was conducted in the initial project phase. Then a questionnaire was developed in collaboration with an expert group for quantitative data collection. A total of 1,047 individuals participated in the survey; analyses of the quantitative data were enriched by insights from ten qualitative interviews. Detailed findings cover SGMs' health status and experiences of discrimination as well as access to healthcare and health-promoting factors. Participants rated their health status lower than the average in Austria. A high number reported encountering discrimination in healthcare, especially among intersex and trans participants. While approximately half of the respondents were satisfied with healthcare provision, around 16% expressed dissatisfaction. Finally, a significant proportion of participants reported having foregone healthcare services at least once despite having health issues. Our work underscores the importance of recognizing the diverse needs of distinct groups within the SGM spectrum. It is crucial to avoid oversimplification by grouping them into a single SGM category as this obscures the unique challenges and inequalities faced by each subgroup. The rapid evolution of terms adds complexity to this work. Moreover, attention should be directed towards intersectionality within these groups as some are hard to reach with an online survey. Navigating the seas of public health innovation, our exploration of SGM health in Austria reveals not only the challenges but also the imperative for inclusive and tailored healthcare strategies.

Key messages:

- The 2022 LGBTIQ+ Health Report Austria reveils SGM health realities: lower health status, discrimination, and unmet healthcare needs, urging targeted interventions.

- Acknowledging diverse SGM groups and evolving terminologies, our study underscores the need for nuanced, intersectional healthcare approaches.

Abstract citation ID: ckae144.2271
Effect of moderate wine consumption on men's sexual potential

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Background: Drinking large amounts of alcohol has a negative effect on men's sexual activity and reproductive potential. High alcohol intake can interfere with hormone production in the hypothalamus. The connection between low alcohol consumption and sexual activity is not yet clear from previous research.

Methods: In the course of a prospective study with ethical approval, we examined how the consumption of 1 deciliter of white wine per day for 5 weeks affects the parameters of men's sexual life. In the course of strict inclusion and exclusion criteria, 45 healthy male volunteers were included in the study. 25 men in the active arm drank wine, while 20 men in the control arm drank apple juice instead of wine for 5 weeks. On day 0 and week 6, we examined the serum testosterone level, liver enzymes, inflammatory parameters, anxiety level, sleep quality and sexual activity of the participating men using objective tests.

Results: As a result of consuming moderate white wine for 5 weeks, the men's testosterone level increased significantly, inflammatory parameters and liver enzyme values decreased, the sleep quality of the participants in the active arm improved, their pain decreased, and their quality of life improved. The sexual performance of 85% of participants in the active arm improved, none of them deteriorated. No similar improvement occurred in the control arm.

Conclusions: Moderate wine consumption improves the sexual performance, quality of life and several laboratory parameters of healthy men.

Key messages:

- Based on our pilot prospective clinical study, men do not need to fear that a small amount of wine will negatively affect their sexual performance.
- Moderate wine consumption had a positive effect on men's testosterone levels, quality of life and also improved sleep quality.

Abstract citation ID: ckae144.2272
Operationalizing Macro-Level Structural Sexual Minority Stigma: A Scoping Review of the Literature

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Background: Structural stigma, including discriminatory laws, inequitable policies, and negative attitudes, has been conceptualized as the general societal climate and institutional conditions that shape sexual minorities' lives, mental, and physical health. While multidimensional indices have been used globally, U.S.-based studies have largely relied on single indicators (e.g., a law or policy; presence of resources). This scoping review aimed to identify structural sexual minority stigma indicators relevant to the U.S. context, to inform comprehensive, multidimensional future operationalizations.

Methods: Systematic database searches in PubMed, PsycINFO, and JSTOR, and snowball techniques resulted in 70 articles. After duplicate deletion and abstract review, 25 unique indices were long-listed relevant to structural sexual minority stigma at country or state level (i.e., macro level). School (district) and county (i.e., exo level) indicators were excluded.

Results: From the long-listed indices, a total of 112 legal and policy indicators were narrowed down to relevant 33 macro-level indicators and grouped across seven domains: criminal justice, hate crime protections, non-discrimination, religious refusal, relationship recognition, parenting, and youth laws and policies. Two different quantifications of population attitudes were identified that aggregated social and policy opinions across states regarding sexual minority adoption, hate crimes, health benefits, labor and housing, public speaking or teaching, marriage, sodomy, and civil unions.

Discussion: While a large variety of legal and attitudinal indicators was identified, few U.S.-based studies used multidimensional operationalizations (e.g., law, policy, opinion) needed to reduce risk of confounding bias through population-attitudes-to-law/policy backdoor pathways. To further advance the science on structural sexual minority stigma and health globally, future studies may benefit from multidimensional approaches.

Key messages:

- With many legal and attitudinal indicators identified, few studies used multidimensional operationalizations (e.g., law, policy, opinion) needed to reduce risk of confounding bias.
- To further advance the science on structural sexual minority stigma and health globally, future studies may benefit from multidimensional approaches.

Abstract citation ID: ckae144.2273
Physical activity and sedentarism among non-binary gender identified university students

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Background: Physical inactivity (PA) and sedentary behavior (SB) are modifiable risk factors for non-communicable diseases (NCDs). Data indicates that non-binary gender identified people find it difficult to perform PA, this is a disadvantage for them to reach their full health potential.

Methods: Students were selected by convenience sampling to complete a survey between October-November 2023. A validated PA questionnaire was included. PA and SB were classified into 4 levels: Active but sedentary, extremely sedentary, physically active and discreetly active. Data were analyzed using Statistical Package for the Social Sciences (SPSS).

Results: Out of 32 students did not identified themselves as binary gender. In our sample, 28,1% (vs 12.9% binary students) don't do PA. Of those doing PA, 52,2% don't meet World Health Organization recommendations. Among those who perform PA, there no difference in the amount of minutes/week of moderate or intense physical activity performed. Regarding SB, 93,8% spend

>6 hours/day in SB (vs 84.7% binary students, mean 7,82 vs 8,75, Sg. 0,032). When grouped into PA/SB categories 65,6% (vs 40,5%) were extremely sedentary in contrast to 1,4% physically active (vs 8.8%).
Conclusions: In Spain, 1 in 4 young people does not identify with the male/female categories. In our sample, physical inactivity and sedentarism are higher among those who do not identify as male/female. Once they commit to physical activity, there is no difference in the time spent between those who meet the WHO recommendations. More research is needed to understand the reasons for these differences and ensure barrier-free access to healthy lifestyle habits on campus.

Key messages:

- Non-binary gender identified students are less physically active and more sedentary than their peers.
- Once they commit to physical activity recommendations, there are no differences among their performance.

Abstract citation ID: ckae144.2274
Gender-specific impact of COVID-19 in the UAE: Analyzing gender disparities in health and well-being

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Background: Understanding gender disparities in health impacts during pandemics is crucial. While early observations of the COVID-19 pandemic suggested higher severity and mortality rates among males, subsequent studies hinted at a disproportionate impact on females' health and well-being. This study aimed to explore gender-specific differences related to COVID-19 in the United Arab Emirates (UAE).
Methods: Data from four independent surveys were analyzed to assess gender differences in knowledge about available vaccines, vaccine hesitancy, COVID-19 severity, admission to the Intensive Care Unit (ICU), anxiety among healthcare workers (HCWs), and psychological health of healthcare workers and the general population. Gender gaps were calculated as the absolute difference between males and females. Chi-square tests and logistic regression were performed to test the association between gender, age, and selected outcome variables.
Results: Males had a significantly higher risk of moderate to severe COVID-19 symptoms (71%) compared to females (63%). The gender gap in symptom severity was smallest among those aged 55+ and highest among adults aged 35-54. Post-discharge, 22% more females reported multiple conditions than males. Among HCWs, females showed lower knowledge (19% gap) and higher vaccine hesitancy (20% gap), with larger gaps among older age groups. Females also experienced more anxiety and psychological stress, especially in the 35-54 age group. Logistic regression confirmed higher odds for females in reporting vaccine hesitancy, long COVID-19 symptoms, and anxiety, even after adjusting for demographic factors.
Conclusions: This study highlights unequal health outcomes and burdens experienced by women and men during the COVID-19 pandemic in the UAE. The distinct challenges faced by women, including higher mental health burdens and persistent post-recovery symptoms, suggest systemic gender disparities that require targeted attention in healthcare policies and practices.

Key messages:

- Gender disparities in COVID-19 were evident in the UAE with males experiencing severe COVID-19 symptoms, while females experienced post-recovery symptons, vaccine hesitancy, and stress.
- Urgent action is required to address gender disparities in COVID-19 impacts, emphasizing mental health support and post-recovery care in policy formulation.

Abstract citation ID: ckae144.2275
Healthcare accessibility of individuals at increased risk of STIs: a cross-sectional survey in Italy

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Access to STI prevention and sexual health services in Italy, especially among vulnerable and marginalized groups, is inadequately documented. With the support of community organizations, a cross-sectional survey was conducted between September 2023 and March 2024 to assess health services accessibility among individuals at increased risk of STIs. A total of 1456 responses were analyzed. The respondents comprised 1327 (91.14%) cisgender men, 58 (3.98%) cisgender women, 11 (0.76%) transgender men, 10 (0.69%) transgender women, and 47 (3.23%) non-binary individuals. Overall, 93.8% were men who have sex with men, and 2.8% were women who have sex with women. Mean age was 38 (SD 12). Among respondents, 1284 (88.2%) had undergone HIV testing at least once [102 (7%) living with HIV; 45.1% diagnosed during prior year]. Overall, 563 (38.7%) had been diagnosed with at least one STI in the prior year. Chemsex was reported by 106 (7.3%), with 4.7%, 75.5%, and 35.5% using injective, inhaled or oral substances. Despite a high risk for STIs, 728 (50%) and 410 (28.2%) individuals, respectively, did not visit a specialist in infectious diseases or their primary care provider in the prior year. PrEP awareness was high: 1286 (88.2%) respondents were knowledgeable about it, but only 342 (23.5%) attended PrEP centers and 297 (20.4%) used it. Among PrEP users, 27 (7.9%) encountered difficulties obtaining the drug and 174 (50.9%) considered the cost prohibitive (before it became free). Additionally, 27 (7.9%) of those attending PrEP centers felt judged or disrespected. Overall, 1179 (80.9%) had heard of Mpox, and 1012 (69.5%) were aware of the vaccine, with 301 (20.6%) being vaccinated. Among those vaccinated, 18 (5.2%) felt judged or disrespected. Out of 55 (3.8%) individuals tested for Mpox, 13 (23.6%) tested positive, among which one reported feeling disrespected. The survey highlights critical gaps in healthcare access and awareness among individuals at increased risk of STIs in Italy.

Key messages:

- In a final open-ended question, responders commented on various issues including high costs of services, insufficient provider training and the necessity for improved inclusion of LGBTQ+ individuals.
- The robust response from typically hard-to-reach groups underscores the pivotal role of community involvement in enhancing awareness and accessibility of sexual health services, fostering inclusivity.

Abstract citation ID: ckae144.2276
Incentivization of Sexually Transmitted Infection Testing at a Large Public University

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Background: According to the United States (U.S.) Centers for Disease Control and Prevention, more than 2.5 million cases of syphilis, gonorrhea, and chlamydia were reported in 2022, with notable increases in gonorrhea and chlamydia. The highest rates of chlamydia, gonorrhea, and syphilis were found in men and women of college age. This study compared free STI testing events to usual care with regard to patient socio-economic factors and testing positivity rates.

Methods: The Department of Student Health & Wellness at a large, public university offers routine testing at a low cost, flat rate, including chlamydia, gonorrhea, hepatitis C Ab, syphilis and HIV testing. Two weeks of free testing were held during calendar year 2023. Utilization and positivity rates between free testing and regular testing weeks were compared using Pearson's chi squared and Fisher Exact tests.

Results: A total of 8705 tests were performed during routine testing weeks with associated cost averaging 174 tests per week as compared to 1177 tests for the free testing weeks averaging 589 tests per week. Testing uptake during free testing weeks was higher among females (65.6% ($n=772$) vs. 55.1% ($n=4797$); $p<0.001$) and minorities such as, Black or African American [11.3% ($n=133$) vs. 9.4% ($n=813$); $p=0.02$], Hispanic [11.4% ($n=134$) vs. 9.2% ($n=798$); $p=0.02$] and Asian [13.1% ($n=154$) vs. 8.8% ($n=763$); $p<0.001$] when compared to testing during regular weeks. Chlamydial infection positivity rate was lower during the free testing weeks [1.8% ($n=7$)] vs. [3.9% ($n=123$); $p=0.04$]. Gonorrhea, hepatitis C, HIV, and Syphilis positivity rates did not differ between the two testing periods.

Conclusions: Free STI testing in the context of a large, public university Student Health Department shows increased utilization. The establishment of free testing weeks was associated with an increase in female students and minorities use of testing services at a large public university.

Key messages:

- Incentivization can improve STI testing utilization among university students.
- The establishment of STI free testing periods can increase the use of testing services among minority students and females.

Abstract citation ID: ckae144.2277

Intention to use HIV pre-exposure prophylaxis (PrEP) in health sciences students

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Introduction: HIV is a public health issue, and as such, there are currently programs for the use of pre-exposure prophylaxis for HIV (PrEP) in various public institutions, with family physicians being one of the pillars to provide information and raise awareness among individuals at risk for HIV who wish to use these strategies.

Objectives: To determine the factors associated with the intention to use PrEP among university students in the healthcare field in the Veracruz-Boca del Río region.

Methods: A cross-sectional, prospective, and analytical study was conducted from August 2023 to March 2024, including students from healthcare-related majors at universities in the Veracruz region. An instrument was used to assess the level of knowledge about PrEP (Cronbach's alpha of 0.8), with scores ranging from 0 to 10. Students were invited to participate in this research at different faculties of health sciences.

Results: 508 subjects participated, with 299 (58.9%) females and 386 (76.0%) heterosexual; 65.9% had never heard the term 'PrEP,' and 12% learned it from social media. The intention to use PrEP was positive in 81.5% of subjects in case of becoming a high-risk person for acquiring HIV. The level of knowledge about PrEP showed a score of 2.2 (SD ± 2.6), with 3.7% having high knowledge, 10.2% having a passing grade, and 55.9% scoring above the median (1.4) of the group's scores. No association was identified between gender identity, sexual orientation, academic characteristics, and sources of information with the intention to use PrEP ($p>0.05$). Knowledge level above the median of 6 points showed an odds ratio of 2.95 (95% CI 1.03-8.3) for the intention to use PrEP ($p<0.05$).

Conclusions: The level of knowledge increases the probability of the intention to use PrEP in young people, making it essential for the primary care physician to carry out this training and awareness activity within their daily interactions with young patients.

Key messages:

- It is essential to generate education programs on Prep for the population, as this will favor informed decision making on the use of these medicines in case they are required.
- It is necessary to provide people with general information about Prep, since despite the existence of active programs for its distribution, most people have never heard anything about this drug scheme.

Abstract citation ID: ckae144.2278

HPV vaccination in Croatia (2016-2023): Increased vaccine uptake and declining sex disparities

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Background: The Human papillomavirus (HPV) is a known cause of cervical cancer, and is associated with the development of vaginal, vulvar, anal, penile, and head and neck cancer. The availability of the HPV vaccine has enabled generations of young people to be protected from HPV-related cancers. In 2016, a national immunization program targeting 14-year-old girls and boys has been initiated in Croatia. To date, systematic data on HPV vaccination coverage (VC) in Croatia is lacking. This study aims to determine HPV VC, examine trends in HPV vaccination in Croatia from 2016 to 2023 in the context of the national vaccination program, and assess differences between sexes.

Methods: The study is designed as a retrospective analysis covering the data from 2016 to 2023, collected from primary healthcare providers. HPV VC within 2000-2008 birth cohorts (BC) are analyzed for all vaccinated with at least one dose and assessed by sex. The trend in HPV vaccination is shown using joinpoint regression. The chi-square for trend is used to compare the vaccination coverage of females (FVC) and males (MVC). The rate ratio between FVC and MVC is calculated.

Results: HPV VR increased significantly among observed BCs from 6,44 % in 2000 BC to 44,22 % in 2008 BC (FVC rose from 10,67 % to 52,78 %, and males MVC from 2,47 % to 36,05 %). Joinpoint analysis revealed a statistically significant increase in all birth cohorts, while the steeper increase is seen in 2000-2006 BCs (APC = 35,47, $P<0,05$) than in 2006-2008 BCs (APC = 13,93, $P<0,05$). FVC is significantly higher than MVC in all birth cohorts (Extended Mantel-Haenszel chi-square for linear trend = 809.23, P < 0,001). The highest FVC/MVC rate ratio was observed in the initial 2000 BC (4,31), and the lowest in the last 2008 BC (1,46).

Conclusions: In Croatia, HPV VC continuously increases among observed BCs. The positive trend is present in both sexes, and the rate ratio between female and male cohorts is decreasing.

Key messages:

- The study presents a systematical overview of HPV vaccination coverage in Croatia from the beginning of the national immunization program, which is crucial for monitoring progress.
- In the following years, if the revealed trends persist or advance, Croatia could be closer to reaching Europe's Beating Cancer Plan concerning eliminating HPV-related diseases.

DY. Poster display: Social security, work and health

Abstract citation ID: ckae144.2279

Developing a nationwide dataset of UK veterans seeking help from sector charities

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Background: The assistance to military veterans and their families in the UK is provided by both the NHS and over 1800 military charities. These charities count services using different definitions and reporting systems, so to date a national registry of service usage does not exist. The aim of the MONARCH study is to build a standardised registry of service usage data for the military charity sector, in order to identify patterns of use, gain insight on possible risk factors, and guide the allocation of resources.

Methods: Data is anonymised and a unique identifier is generated by adopting a Secure Hashing Algorithm, allowing both privacy protection and avoiding double counts. Data is standardised, and linked with an automated process to create an aggregated dataset. The dataset describes the population, using both a-priori and machine learning approaches (K-means clustering) to unveil different usage patterns. In addition, it will be linked to an online interactive dashboard.

Results: To date 5 national charities have shared data, for a total of 42,509 veterans with 128,423 needs. The mean age of beneficiaries was 60.1 years (SD 20.5), and 90% were male. 65% were receiving some other form of statutory benefit, 5% was homeless and 1% was imprisoned. 65% of the needs recorded concerned social wellbeing. 40% of veterans were helped at least in two different years. The k-means clustering approach based on the number of accesses, number of needs and repetition of need returned 4 subgroups of use that were identical to those created using a priori knowledge.

Conclusions: The dataset is the most comprehensive source of charity usage data in the UK to date. Service usage is generally homogenous among subgroups, but some differences were highlighted indicating that younger, non-officer veterans may be more at risk of presenting with more complex needs. These first useful insights can help allocate resources to build an effective preventive strategy for more complex cases.

Key messages:

- The MONARCH dataset is the first comprehensive nationwide registry in the UK of military charity data.
- The understanding of usage patterns can lead to the design of targeted preventive strategies.

Abstract citation ID: ckae144.2280

Characteristics of sick-listed employees diagnosed with a mental disorder in Germany

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Purpose: Employees with mental disorders (MDs) are more likely to exit the labour market prematurely. In Western European countries, characteristics of employees diagnosed with a MD have not been reported comprehensively, hampering targeting the risk group and developing preventive interventions. The aim was to describe the socio-demographic, health, treatment, organisation, job and labour market characteristics of employees diagnosed with a MD in Germany and their gender differences.

Methods: This cross-sectional study uses baseline data from sick-listed ($\geq$6 weeks) employees diagnosed with a MD, aged 20-60 years, who were patients in the German mental health care, and recruited in the context of a return to work (RTW) intervention evaluation trial (RTW-PIA study). Descriptive T-tests/Chi-2 tests were applied.

Results: 484 individuals (58.5% female; 31% highly educated, average age 42.6) were included, of which 88.4% had affective disorders. Most were salaried employees working full-time, employed in large companies and having permanent contracts. 65.5% reported moderate depressions and the average work ability was 3.9 on a 0-10 scale. 74.2% had a positive RTW prognosis; 15.3% scored high levels of RTW self-efficacy. Gradual RTW (GRTW) was perceived the most important requirement for RTW (76.9%). More than 60% had discussed various work-related topics during therapy; further RTW-measures were prepared among 47.7%. Almost 60% received a recommendation for GRTW. Significant gender differences were found among the socio-demographic, health, job and labour market characteristics.

Conclusions: This study gives insights into a hardly investigated group. Almost two thirds had moderate depressions, 84.7% had low RTW self-efficacy and a very low average work ability. This highlights the vulnerability of persons with MDs in the labour market and suggest an urgent need for more work-related (health-)care. Gender differences need to be better addressed in mental health research.

Key messages:

- Comprehensive knowledge of the characteristics of sick-listed employees diagnosed with MDs is crucial for targeting interventions to promote RTW.
- Moderate depression scores, low RTW self-efficacy and very low work ability highlight the vulnerability of persons with MDs in the labour market, suggesting an urgent need for more work-related care.

Abstract citation ID: ckae144.2281
How do working conditions change for in-person versus digital work? The case of schoolteachers

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Background: Telework has significantly increased in Europe and internationally in the aftermath of COVID-19 lockdowns, with estimates of 22% of Europeans now doing some form of telework. However, it is unclear how working conditions for the same job differ when work is conducted in-person versus digitally, and if occupational health risks can be considered as equal across formats. Our study addressed the profession of school teaching to examine online working conditions versus those for in-person teaching.

Methods: To allow for close consideration of employment contexts, a qualitative study was conducted. Focus groups and interviews took place in 2023-24 with 45 teachers and tutors who teach from kindergarten to secondary grades across Canada.

Results: We found that online teaching added to emotional labour of teaching work and involved new occupational exposures. These included challenges with engaging students via cameras and microphones, digital surveillance of teachers by parents and students, unwanted exposure to students' intimate home lives, and technostress.

Conclusions: The work of being an online teacher was very different than teaching in-person, yet there has been slow recognition of working condition differences for understanding of OHS exposures and for collective agreements.

Key messages:
- In the context of a significant expansion of telework, assumptions cannot be made that the job conditions and exposures are the same job when performed in-person or at-home.
- These differences will need to be recognized in job agreements and occupational risk assessments.

Abstract citation ID: ckae144.2282
Injury risk in foreign workers: a proposal for a prevention plan in South Tuscany

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Background: There are nearly 2.3 million foreign workers in Italy, many of whom hold low-skilled and heavy jobs that expose them to greater safety risks. The aim of the study is to analyze data on the accident phenomenon by using information flows from the national work accident insurance institute, in order to ensure a safe and inclusive work environment.

Methods: The total number of foreign workers' accidents in the South Tuscany during the five-year period 2017-2021 was quantified. General injury trend was assessed, breaking down the events by province (Siena, Arezzo, Grosseto), year of occurrence and severity. We analyzed the events by nationality of the injured ones and by severity of compartment.

Results: A total of 38,254 occupational accidents were recorded, of which 6,172 (16.13%) occurred to foreign workers. Compared to the incidence of foreigners residing in the reference territory, the accident figure is 16.13% out of the 10.5% resident population. The majority involve people from Eastern Europe (60.8%). The most representative nationalities are: Romania (1,477 events), Albania (1,022), Morocco (404), Macedonia (341), Kosovo (264), Tunisia (190) and India (170). Romanian workers are the population most affected by occupational injuries in Southeast Tuscany with 1,477 events. Agriculture is the predominant sector with 17.7% of total injuries.

Conclusions: Information flows on foreign workers' accidents is the starting point for specific design of prevention plans (supervision, assistance, research, information and training, awareness raising) aimed at reducing specific accident risk factors. Language and cultural differences represent an element of possible conditioning of risk perception, which must be considered in an effective design of safety training courses for foreigners.

Key messages:
- The study of accident information flows of foreign workers provides the basis for specific design of prevention plans in order to reduce accident risk factors.
- Language and cultural differences must be considered in an effective design of safety training courses for foreigners.

Abstract citation ID: ckae144.2283
Occupational class difference in COVID-19 symptoms in France: contribution of work-related exposures

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Background: The association between socio-occupational class and SARS-CoV-2 infection remains inconclusive and may depend on the setting and the pandemic stage. Our study aims to quantify self-reported COVID-19 symptoms by occupational class (OC) in spring 2020 in France and explain observed differences using work-related risk factors.

Methods: We analyzed data from the EpiCoV population-based cohort, comprising 46,849 active workers aged 18-64 in metropolitan France. COVID-19 symptoms were sudden loss of taste/smell, fever with cough, fever with shortness of breath, or fever with chest oppression. Separating regions highly affected by COVID-19 from other regions, we related OC with reporting of COVID-19 symptoms and assessed the mediation effect of work-related SARS-CoV-2 exposures (contact with the public, using public transportation, self-perceived exposure) using the Karlson-Holm-Breen mediation analysis method.

Results: During the study period, 7.1% of the workers reported COVID-19 symptoms. In both regions, work-related SARS-CoV-2 exposures were related to higher reporting of symptoms, and those exposures were more prevalent in the lowest than in the highest OCs. However, the association of OC with reporting symptoms was not the same in the two regions. In less affected regions, the lowest OC reported COVID-19 symptoms less often than the highest OC, whereas in highly affected regions, symptoms were more frequent in middle OCs, and this was partly explained by work-related SARS-CoV-2 exposures.

Conclusions: Different socio-occupational patterns of symptoms were observed in the two groups of regions. The situation in the less affected regions, with more reporting in the highest relative to the lowest classes, may be attributable to exposure factors playing a role opposite to that of work-related exposures. Further studies on OC disparities in COVID-19 severity are needed based on hospitalization and mortality.

Key messages:

- During the early pandemic, in regions less affected by COVID-19, the upper occupational class reported more COVID-19 symptoms, whereas the middle class did so in highly affected regions.
- Work-related exposure to SARS-CoV-2 mediates the association between occupational class and reporting COVID-19 symptoms to some extent, even when the occupational gradient is reversed.

Abstract citation ID: ckae144.2284
Heavy Work Investment (HWI) and Its Effect on Employees' Physical and Mental Health

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Background: Economic reality and centrality of work have led to employees investing much time and effort in work. However, The number of hours spent at work may not be the only explanation, and other characteristics, such as type of work, employees' personality, economic status, motivations, etc., need to be considered. The Heavy Work Investment model (Snir & Harpaz, 2012) considers these variables and classifies employees into four types of investors. This study examines the physical and mental health consequences of each HWI group.

Methods: Participants (N = 962) were workers who came to a medical center for annual medical screenings. About 70% were males, and the average age was 50.13 years (SD = 9.53). They divided into 5 groups: Typical full-time workers (N = 208, 29.2%), 'Needy' (N = 111, 15.6%), 'Employer directed' (N = 111, 15.6%), 'Workaholic' (N = 192, 26.9%) and 'Work devoted' (N = 91, 12.7%). The personal data was cross-referenced with the respondents' health data. Differences for categorical variables were examined with Chi-square analyses.

Results: 'Employer-directed' employees, more than 'work-devoted' employees, perceived their health status as preventing them from performing mild activities. 'Employer-directed' and 'needy' employees, more than 'work-devoted' employees, perceived their health status as interfering with their social activities and their pain as interfering with their regular activities. 'Workaholic' employees suffered from more diseases than 'work-devoted' employees, and they were found to be 3.70 times more likely to be at a high risk of cardiovascular disease than typical full-time workers.

Conclusions: It is possible to anticipate types of health damage according to occupation type and develop occupation-adjusted health promotion programs. It is necessary to base labor laws on protecting employees' health, particularly regarding time and workload' outside of work' in both hours (additional or flexible) and location (hybrid work).

Key messages:

- Inspire organizations to be aware of potential injuries caused by HWI and promote the creation of intervention programs, potentially significantly improving employees' health and well-being.
- Evidence for the necessary laws that protect employees' health, particularly regarding time and workload 'outside of work' in both hours (additional or flexible) and location (hybrid work).

Abstract citation ID: ckae144.2285
Association of Workplace Toilet Access with Urinary Tract Symptoms and Productivity Loss among Female

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Purpose: Lower urinary tract symptoms (LUTS) are prevalent among women, affecting not only their physical well-being but also their quality of working life. We investigate workplace toilet access related to LUTS among women in the Korean workforce.

Materials and methods: An online survey was conducted to determine the demographic characteristics, occupational risk factors, and urinary tract symptoms among employed Korean women. Occupational risk factors included three survey questions on access to toilets at work: A) enduring urinary symptoms at work; B) capability to use the toilet at will during work, and C) needing to use the toilet during work but were unable to. The LUTS were assessed using the overactive bladder symptom score (OABSS) and international consultation on incontinence questionnaire-urinary incontinence short form (ICIQ-SF). Health-related productivity losses (HRPL) were estimated using the work productivity and activity impairment (WPAI) questionnaire for urinary symptoms. Multiple logistic regression was used to determined the association between workplace toilet access and LUTS. In addition, generalised linear regression analysis was performed to assess HRPL according to workplace toilet access.

Results: Of the 1057 participants, 260 (24.6%) and 294 (27.81%) had overactive bladder and urinary incontinence, respectively. More than 50% reported poor access to toilet. Multiple logistic regression analysis showed that the lower the access to toilets in the workplace, the higher the incidence of LUTS and the higher HRPL.

Conclusions: Restricted access to toilets at work are associated with poor urinary health and loss of productivity. The results highlight the need for interventions to improve the workplace environment.

Key messages:

- Restricted access to toilets at work are associated with poor urinary health and loss of productivity.
- The results highlight the need for interventions to improve the workplace environment.

Abstract citation ID: ckae144.2286
Organizational well-being in a healthcare facility in Tuscany

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Introduction: Organizational climate assessment provides crucial insights into work life across sectors. While corporate culture evolves gradually, the organizational climate promptly reflects employees' mood, motivation, enthusiasm, and perception of the work environment. This study aims to analyze the organizational well-being in a healthcare facility in southeast Tuscany to reveal both successful areas and critical issues within the organization.

Methods: Data on gender, age, tenure, qualification, and contract type were collected anonymously. Organizational climate was assessed using a Likert scale (1-10), covering workplace safety, stress, fairness, discrimination, career development, relationships, belonging, and other perceptions. STATA was used to conduct this analysis.

Results: Twenty-nine participants included 55.3% male, averaging 45.3 years. Thirty-one percent had less than 5 years of tenure, with only 14% in managerial roles. Workplace safety perception varied:

58% moderately safe, 20% unsafe, and 20% highly insecure. Bullying was reported by 14.3%, while 17.6% found compensation fully appropriate. Merit and career opportunities were unrelated for 65.5%, and 48.2% found their role aligned with their profile. Fifty-five percent felt part of a team, and 27.5% perceived good integration. Company rules were clear for 93%, but 34.5% considered changing companies, while 55.1% were satisfied. External user perception was positive at 58.5%.

Conclusions: The analysis identified positive aspects and areas for improvement in workplace well-being. Safety and fairness in job allocation were well-received, with room for improvement, mostly in promotion transparency. Colleague relationships were positive, emphasizing the importance of transparent communication and employee engagement in building trust and participation. These findings can guide the development of targeted interventions to enhance organizational well-being, fostering employee satisfaction and efficiency.

Key messages:

- The evaluation of organizational climate in this healthcare facility revealed a variety of employee perceptions, highlighting strengths and areas for improvement in workplace well-being.
- Enhancing transparency and communication regarding merit-based promotions within the organization is necessary to foster employee trust and engagement.

Abstract citation ID: ckae144.2287
Do shift-working nurses' work-life quality relate to their physical health and diet quality?

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Background: Shift work negatively affects work-related quality of life and this situation causes significant labour force losses and decreased productivity in the society, especially health problems in nurses. This study was conducted to determine the relationship between work-related quality of life, physical health level and nutritional behaviours of nurses working in shifts.

Methods: This descriptive and relationship-seeking study was conducted with 312 nurses selected by quota sampling in Istanbul. Data were collected between December 2022 to July 2023 using the The Professional Quality of Life Scale (ProQOL), Physical Health Questionnaire and Food Consumption Frequency Questionnaire. Descriptive statistics and Pearson correlation tests were conducted on IBM SPSS 25.0. BeBIS 7.1 software were used for calculation diet index.

Results: Compassion Satisfaction (CS), Burnout (B) and Compassion Fatigue (CF) scores of nurses was examined, a relationship was found between CS score and B score ($r=-0.39$ $p < 0.05$) and between B score and CF score ($r = 0.58$ $p < 0.05$). CS score correlated with Cardiovascular Risk Level score ($r=-0.15$ $p < 0.05$) and diet index score ($r = 0.15$ $p < 0.05$). B score correlated with Gastrointestinal Risk Level score ($r = 0.27$ $p < 0.05$) and Cardiovascular Risk Level score ($r = 0.38$ $p < 0.05$). There was a correlation between the score of CF and Gastrointestinal Risk Level score ($r = 0.25$ $p < 0.05$) and Cardiovascular Risk Level score ($r = 0.31$ $p < 0.05$). Daily energy, fibre, vitamin B1 and C, folate, calcium and magnesium intakes of nurses were lower than the recommended.

Conclusions: Research results support that the gastrointestinal and cardiovascular systems have a direct relationship with stress and emotional states. In the policies to be developed within the scope of occupational health nursing practices, it is recommended to carry out studies to improve the physical health and nutritional behaviours of nurses in order to improve their work-related quality of life.

Key messages:

- Nurses are a risky occupational group in terms of burnout. Protection studies should be prioritised to prevent burnout.
- Gastrointestinal and cardiovascular system complaints of nurses should be paid special attention during recruitment and periodic examinations.

Abstract citation ID: ckae144.2288
School-based outdoor education and teacher well-being: the LärMiljö (Learning Environment) - study

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Background: School-based outdoor education (OE) is a teaching method aiming to promote pupils' learning and wellbeing. OE with its action-oriented and cooperative learning approach can inspire teachers to develop their teaching and may also have a positive impact on their work wellbeing. According to self-determination theory, satisfaction or frustration of employees' basic psychological needs - need for autonomy, competence and relatedness - are important facilitators or impediments of work wellbeing. We explored possible associations between OE use and teachers' 1) satisfaction/frustration of basic needs at work and b) work engagement.

Methods: The study, part of the LärMiljö-study, used data collected in 2022 through electronic surveys among teachers in Swedish-language primary schools in Finland; $N = 134$ teachers from 44 schools. Main measures were the 24-item Basic Psychological Need Satisfaction and Need Frustration at Work Scale and 9-item Utrecht Work Engagement Scale. Data was analysed with Mann-Whitney U-tests and Spearman correlation.

Results: The vast majority was female, classroom teachers and had a master's degree. Preliminary findings show that 69% practiced OE (sporadically or regularly) and 31% did not; both groups were similar in terms of teaching experience, age and gender. Teachers using OE had higher autonomy and competence need satisfaction, and lower relatedness need frustration than teachers not using OE ($p < 0.05$). There was no difference in overall work engagement ($p = 0.07$), but OE teachers had higher dedication to work ($p < 0.05$). Satisfaction of basic needs at work was positively, and frustration of needs negatively, associated with work engagement ($p < 0.001$).

Conclusions: Practicing OE appears to have positive associations with teachers' dedication to work and satisfaction of need for autonomy and competence, and a negative association with relatedness frustration. More research is needed to confirm and examine the direction of these associations.

Key messages:

- Outdoor education (OE) may besides pupils' learning and wellbeing also promote teachers' work wellbeing. Work wellbeing among teachers was studied within the framework of self-determination theory.
- Practicing OE seems to be positively associated with teachers' dedication to work, a sub-dimension of work engagement, and satisfaction of the basic needs for autonomy and competence at work.

Abstract citation ID: ckae144.2289
30-month work participation trajectories of employees returning to work with common mental disorders

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Background: Promoting a sustainable return to work (RTW) and work participation (WP) for employees with common mental disorders (CMDs) is a crucial challenge for mental healthcare, organisations, and society at large. To date, work-related factors have only very rarely been examined within RTW trajectory studies. The present study aims to examine 30-month WP trajectories and associated individual, health- and work-related factors of employees on sickness absence due to CMDs in Germany.

Methods: In a prospective cohort study with N = 259 participants, five measurements were conducted at baseline (during the last week of inpatient treatment), and 6, 12, 18 and 30 months later. WP was defined as the proportion of weeks being present at work between two measurement points (self-reported). WP trajectories over 30 months were estimated with Latent Class Growth Analysis (LCGA), and were described according to associated individual, health- and work-related factors.

Results: We extracted four trajectory classes: Class 1 'slowly increasing WP' (19.6%) with a slow but constantly increasing WP over time, and finally reaching nearly 60% of WP; Class 2 'high maintaining WP' (30.3%) with a maintaining high WP of over 80% after RTW until 30 months; Class 3 'highest maintaining WP' (34.7%) with the highest maintaining WP throughout follow-up and reaching nearly 100% WP after RTW; and Class 4 'decreasing WP' (15.4%) with a positive development of WP until 12 months, reaching of about 90% WP, but then decreasing below 60% WP until 30 months. Participants with persistent high WP (Classes 2 and 3, 65.0%) reported better individual-, health- and work-related characteristics at baseline, and more realized work accommodations during RTW.

Conclusions: For the majority of the employees, returning to work resulted in sustainable WP during the 30 months study period. However, about one third of the employees should be given more attention in their complete RTW process from treatment to workplace support.

Key messages:

- Sustainable work participation after returning to work with common mental disorders is a long and complex journey.
- Employees with a better individual, health- and work-related situation at baseline seem to be more likely to achieve a sustainable work participation.

Abstract citation ID: ckae144.2290
Phenotypes of Italian workers with disability: a cluster analysis on workers with multiple sclerosis

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Background: While job maintaining/reintegrating are clearly complex issues in multiple sclerosis (MS), where many aspects (physical, psychological, relational and personal resources) can play a key role, they offer scope for potential interventions. This study aimed to identify and describe phenotypes of workers with MS considering specific work-related domains such as work-related difficulties, anxiety and depressive symptoms, and coping strategies.

Methods: A cross-sectional online survey on MS workers was conducted in Italy. Hierarchical cluster analysis was performed by the Ward method followed by k-means cluster analysis.

Results: A total of 209 workers with MS were included in the analysis. We identified four phenotypes: phenotype 1 had low work difficulties, low depressive symptoms and mild anxiety, with a moderate tendency to use problem focus and positive attitude and a mild one to use social support as coping strategies (n = 82, 39.2%); phenotype 2 had low-to-mild work difficulties, mild anxiety and low depressive symptoms, with a high tendency to use positive attitude and religion, moderate problem focus and social support, and mild denial (n = 38, 18.7%); phenotype 3 had low-to-mild work difficulties, moderate anxiety and depressive symptoms, with a mild tendency to use problem focus, positive attitude, religion, social support, denial as coping strategies (n = 50, 23.9%); phenotype 4 had mild-to-moderate work difficulties, moderate anxiety and depressive symptoms, with a moderate tendency to use problem focus, positive attitude, and mild social support and denial as coping strategies (n = 39, 18.7%)

Conclusions: This explorative analysis aimed to find distinct workers with MS profiles in a working-age population based on work-related domains such as work-related difficulties, coping strategies, and psychological aspects. This could lead to a better tailoring of the vocational rehabilitation interventions for workers with MS.

Key messages:

- This approach, in which different domains related to work are considered, could help to identify a taxonomy that recognizes distinct and predominant MS worker phenotypes.
- Identification of subgroup MS workers, could result in better tailoring of the vocational rehabilitative interventions for people with MS.

Abstract citation ID: ckae144.2291
Return to work after hip and knee arthroplasty: qualitative outcome from the Netherlands

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Background: Total Hip Arthroplasty (THA) and Total Knee Arthroplasty (TKA) are performed daily worldwide. More younger working-age patients are receiving a THA and/or TKA. Outcomes, including Quality-of-Life (QOL), patient satisfaction and Return-to-Work (RTW) are becoming more important and have implications for healthcare budget and health workforce. Clinical recovery pathways should improve patient outcomes and cost-effective care.

Insight in patient experiences and expectations regarding RTW remains behind. This study aims to gain insight into influenceable factors in the recovery pathway after THA or TKA that could lead to improved care and enhanced patient participation.

Methods: In this single-center qualitative study, performed at Zuyderland Medical Center (Sittard-Geleen, the Netherlands), 12 patients (n = 6 THA; n = 6 TKA) aged under 65 years were approached to participate. During interviews 6-weeks after arthroplasty, this research explored their RTW experiences in both pre-, and postoperative, in- and outpatient settings.

Results: In total, 12 employed patients who received a THA (n = 6, mean age 56 ± 7.4 years; female: n = 4, 66%) or a TKA (n = 6, mean age 61 ± 2.6 years; female n = 3, 50%) participated. Own control regarding RTW and a minimal recovery time after the operation was necessary for all patients. During this time, focus on physical therapy and strengthening was most important. RTW was not expected to be the primary goal during the clinical recovery pathway. The RTW topic was said to belong to the occupational physician (OP) and employer. Patients however knowledge that the type of work should gain importance in the consultation room. Patients missed accessible communication between the orthopedic surgeon and OP.

Conclusions: Overall, patients are satisfied with the current clinical recovery pathway. Intercollegiate communication should be made more accessible. Own control and strengthening self-management in the RTW remain important for all patients.

Key messages:

- Own control and strengthening self-management should have importance in the guidance of working-age patients after THA or TKA.
- Intercollegiate communication should be made more accessible.

DZ. Poster display: Other public health issues

Abstract citation ID: ckae144.2292
Preparing a dataset for new life: cleaning a longitudinal study for new analyses and linkages

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Issue: The Belfast Youth Development Study (BYDS) was conducted from 2000-2010, comprising 7 waves of collection. The data contain valuable insights into the health and social lives of adolescents but were stored using inconsistent management practices and lacked a metadata crosswalk describing all variables and their content. Primary challenges to new analysts included shared questions entered using varying notations across waves of collection ("mother" and "yes" in a "mother lives at home" variable), single question responses stored wide across multiple variables, and a need for comprehensive metadata.

Description: Individual questions were un-joined from the linked dataset, cleaned using the tidyverse suite of packages in R, and then left-joined to the primary dataset. Where responses were recorded differently across years, scales were standardised across waves of collection. Questions were arranged in their original order to maintain dataset integrity.

Simultaneously, a crosswalk was created of each question, its old and new variable names, and its response scales. Rows for old variable names and response scales were collapsed into comma-separated values and deduplicated by the new variable names using the dplyr package.

Results: Following this work, the BYDS dataset is ready for new researchers to analyse and describe findings. A large grant has recently been awarded to conduct a new wave of data collection, the analysis of which will be enhanced by the cleaned dataset and its associated metadata.

Lessons: It is feasible and desirable to maintain older datasets through semi-automated practices facilitated through the tidyverse suite of packages in R. Improvements in data management since the initial digitisation of large datasets more than 20 years ago provide a framework for conducting this work.

Key messages:

- The tidyverse suite of packages allow for low-burden cleaning and maintenance of important historical datasets to facilitate their ongoing use and preservation.
- There is value in supporting staff training on simple data management skills in R to support lower burden in data management practices.

Abstract citation ID: ckae144.2293
Trade as a commerical determinant of health: The health impact of a free trade agreement on Wales

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As a result of the UK's withdrawal from the European Union ('Brexit'), the UK can negotiate its own trade agreements for the first time in over 40 years. This includes the Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP). Public Health Wales undertook a mixed-method Health Impact Assessment (HIA) to assess the potential impact of the CPTPP on health, well-being and inequalities in Wales. It is only the second ever HIA carried out on a free trade agreement (FTA) globally. A literature review on the potential impact of the CPTPP on health was conducted. Qualitative interviews with cross-sectoral representation, such as the environment, were undertaken alongside the development of a community health and demographic profile. The HIA identified significant potential impacts across health determinants, e.g., employment, agricultural production and health care, as well as impacts on population groups, e.g., those on low incomes. The Investor State Dispute Settlement (ISDS) mechanism, economic uncertainty and loss of regulatory alignment were identified as potential pathways for health impacts to affect the population. The HIA highlighted trade as a key commercial determinant of health. The findings have been beneficial in informing policy and decision-makers to prepare for the implementation of the CPTPP and take action to maximise opportunities and prevent potential negative impacts. Communicating HIA evidence that links trade to health has also led to valuable cross-sector and cross-UK engagement and sparked a "rethinking" of trade through a well-being economy lens where health, well-being and sustainability are primary objectives.

This work has demonstrated the value of a HIA approach to FTAs by mobilising a range of evidence through a transparent process, resulting in transferrable learning for others as well providing an entry point for public health to have direct engagement with trade negotiators and those participating in trade discussions.

Key messages:

- Trade agreements are a key commercial determinant of health across health behaviour, policy and economy.
- Multiple population groups are affected by trade agreements both positively and negatively.

Abstract citation ID: ckae144.2294
Unveiling social disparities in later life: Income's Impact on mortality among the elderly in Italy

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Background: Income is an important predictor of adult mortality, as a proxy of living conditions, capability and access to health services. Previous studies show that mortality decreases by increasing income. In Italy, studies at a national level are missing. This study aims to investigate inequalities in mortality by income in Italy.

Methods: The analysis is based on the integration of the National Population Register (comprising the resident population as of Dec 31, 2018, and deaths in 2019) and the Income Statistical Register (representing perceived income during 2018). This integration enabled the availability of information on age, sex, residence, education, income, and vital status at the individual level for 13 million people aged 65 or above. Individuals were categorized according to their individual disposable income quintiles both before and after disability benefits. Inequalities by income are assessed by mortality rate ratios (MRR) estimated using negative binomial regression models controlling for demographic and socioeconomic features. The study is carried out within the Next Gen EU-funded project "Age-It Ageing well in an ageing society" (PE0000015), NRRF, M4. C2, Intervention 1.3.

Results: Considering income net of disability benefits, lower income levels are associated with higher mortality rates compared to the highest income level, for both sexes. Inequalities are more marked for men. The highest excess was observed for individuals with the lowest income (male MRR=1.65, 95%CI: 1.6-1.71; female MRR=1.43, 95%CI: 1.38-1.48). The excess decreases with increasing income.

Conclusions: The observed relationships between income and mortality are crucial for targeting policies to reduce health inequalities and promote the well-being of the elderly, the goal of which should be to improve access to social and health care and develop supportive policies for the most disadvantaged people. Further research will be devoted to the use of household income for individuals.

Key messages:

- For the elderly, lower income levels are associated with higher mortality, with wider disparities in men.
- The choice of definition of income is essential for an accurate assessment of the association between income and mortality.

Abstract citation ID: ckae144.2295
Smoking, alcohol, substance, technology, and gambling addiction among university students

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Background: University students turn to addictive substances to cope with the anxiety and stress caused by separation from family, adaptation to a new environment, as well as many economic and social problems. This study aimed to examine smoking, alcohol, substance, technology, and gambling addiction among university students.

Methods: The data of this cross-sectional study were collected between February and March 2024. The study population consisted of 23,446 people studying at Ä°nonu University, and the sample size was calculated as 346 based on a smoking rate of 35.6% among university students. A stratified sampling method was adopted according to the faculty of study, and 366 people were approached regarding the study. The independent variables were age, gender, faculty of study, and smoking status, while the dependent variables were alcohol and substance use status. Descriptive data were expressed in numbers and percentages, and a Chi-square test was used in the statistical analysis.

Results: Of the students in the research group, 56.8% were female, 54.4% were 22 years of age or older, 30.1% reported smoking cigarettes, 7.7% reported drinking alcohol in the last 30 days, 39.2% reported using the internet for five hours or more per day, 3% reported playing various casino games on the internet once a week or more, and 1.4% stated that they used substances. There was no statistically significant difference between alcohol and substance use according to smoking status ($p > 0.05$).

Conclusions: Approximately one-third of the students in the research group reported smoking cigarettes, and one-tenth reported alcohol use, which is quite high. The high percentage of students who use the internet for five hours or more per day and the low rate of online gambling should be considered in relation to these addictions.

Key messages:

- Multidimensional interventions and intersectoral cooperation are required to prevent smoking, alcohol, substance use, technology, and gambling addictions among university students.
- In addition, precautions should be taken to protect students against the risks associated with internet addiction and online gaming.

Abstract citation ID: ckae144.2296
Epidemiological profile of patients consulting for smoking cessation in Tunisia from 2020 to 2023

Yosr Ayedi

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Background: Tobacco addiction poses a significant global health challenge, contributing to various diseases and premature mortality. The main objective of our work was to describe the epidemiological profile of smokers seeking assistance at the smoking cessation departement of the 'Abderrahmane Mami' hospital.

Methods: We conducted a retrospective study involving smokers who attended the smoking cessation department between January 2020 and December 2023. Data were collected from the consultants' records. The descriptive study was conducted using IBM SPSS 25 software.

Results: The number of consultants was 440 during the years of the study. The study population was predominantly male (75.2%). The average age of the consultants was 45.41 ± 13.9 years [14-89 years]. The education level of the patients was predominantly university-level (42.4%), followed by secondary education (33.6%). Cardiovascular history was the most common (22.42%). More than half of the consultants (n = 279; 63.4%) had tried to quit smoking at least once. More than half of the smokers followed (57.9%) were highly dependent on nicotine (Fagestrom score ≥ 7). The mean score of the hospital anxiety and depression scale was 8.03 ± 5.398 for anxiety and 5.44 ± 5.185 for depression.

Conclusions: Our study provides informations about the epidemiological profile of individuals seeking tobacco cessation support during the study period. The findings underscore the diverse demographic and clinical characteristics of this population. Understanding these profiles can provide information for the development of effective anti-tobacco programs.

Key messages:
- Tailored interventions are essential to meet the diverse needs of people seeking smoking cessation, optimizing the impact on public health.
- Understanding cessation seeker profiles crucial for effective strategies.

Abstract citation ID: ckae144.2297
Understanding smoking cessation process in Tunisia from 2020 to 2023: description of quit attempts

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Background: Many smokers attempt multiple cessation methods before seeking specialist intervention. This study aims to describe these prior cessation attempts and identify relapse factors to enhance support for these individuals.

Methods: Data from 440 patients consulting the Department of Epidemiology Statistics at Abderrahman Mami Hospital from 2020 to 2023 were analyzed. It included information on previous quit attempts, methods used, longest duration of abstinence, number of attempts, reaction to cessation, and reasons for relapse. Statistical description was conducted using IBM SPSS 25.

Results: Among participants, More than half of the smokers had previously attempted to quit smoking 63,4%, with an average of 2 attempts ± 1,7 (0-10 attempts) per patient. The majority of patients (86.8%) quit smoking without using substitution methods. Among those who resorted to substitution, nicotine replacement therapy was the most frequently used method (n = 30; 6.8%). The longest duration of abstinence averaged 8 years. The main reaction to smoking cessation among patients was an improvement in their health (9,1%). The most common reasons for relapse were psychosocial problems (5.5%), followed by relapses during social events (4.3%), and withdrawal symptoms (3%).

Conclusions: This study emphasizes the importance of considering each patient's journey during their smoking cessation process. Analyzing these factors will enable better management of the cessation program with the patient, as well as a deeper understanding of their feedback regarding our program, ensuring long-term cessation success.

Key messages:
- Failed spontaneous quit attempts prior to NRT initiation are prevalent among smoking patients.
- Understanding failed spontaneous cessation attempts can guide the development of more effective strategies.

Abstract citation ID: ckae144.2298
Loneliness and Social Isolation in Older Adults in Latvia and Iceland During COVID-19

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Background: The COVID-19 pandemic has significantly impacted the mental health and wellbeing of older populations across Europe, exacerbating feelings of loneliness and social isolation, known risk factors for poor physical and mental health outcomes. This study aims to understand the extent and implications of these changes in Latvia and Iceland, providing essential insights for targeted public health interventions.

Methods: This comparative study utilized data from two key sources: the Survey of Health, Ageing, and Retirement in Europe (SHARE) for Latvia and the HL20 study for Iceland, focusing on individuals aged 67 and above. Both quantitative surveys were conducted during the pandemic, offering data on health status, loneliness, and social isolation. A novel approach was applied in analyzing older populations to standardize comparisons between the two distinct datasets. This methodological innovation is part of a bilateral EEA initiative FM2021/23 aimed at strengthening research collaboration between Latvia and Iceland. Descriptive statistics and the Pearson Chi-square test were used to compare outcomes between the two countries and within demographic subgroups.

Results: The study revealed stark differences between the two countries: 80% of Latvian older adults reported social isolation compared to 42.7% in Iceland. Similarly, 45% of Latvians experienced loneliness versus 30% of Icelanders. Significant associations were found between social isolation, loneliness, and deteriorating mental and physical health, with worse outcomes noted in socially isolated individuals.

Conclusions: Our findings demonstrate a clear link between social isolation and adverse health outcomes among the older adults, exacerbated by the COVID-19 pandemic. The study supports the need for proactive public health measures in Latvia and Iceland, including the development of community engagement programs and mental health support services tailored to the needs of older adults.

Key messages:
- Study shows significant health impact of social isolation among older adults in Latvia and Iceland, highlighting urgent need for targeted public health interventions.
- Effective public health strategies and innovative digital outreach can mitigate adverse effects of loneliness and isolation observed in older populations.

Abstract citation ID: ckae144.2299
Loneliness in Baltic-Nordic Older Adults Amid COVID-19

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Background: The study investigates loneliness among older adults in the Baltic-Nordic region, particularly in the context of the COVID-19 pandemic. It aims to understand how loneliness varies across cultural and socio-economic contexts in these areas, which is critical for developing public health strategies tailored to the specific needs of older populations.

Methods: We employed a comprehensive comparative analysis, leveraging data from the Survey of Health, Ageing and Retirement in Europe (SHARE) and the HL20 study from Iceland, focusing on individuals aged 67 and above. The study encompassed a diverse sample from Sweden, Denmark, Estonia, Lithuania, Finland, Latvia, and Iceland, totaling 5,313 participants. This research is part of a bilateral EEA FM2021/23 initiative to enhance methodological approaches to analyzing older populations by coding and standardizing variables for comparability across different countries.

Results: Significant regional differences in loneliness were observed. The Baltic regions reported a higher prevalence of loneliness compared to the Nordic countries, which displayed lower levels, attributed to strong social welfare systems and community engagement. Factors such as employment, marital status, and educational attainment varied across regions, affecting loneliness levels.

Conclusions: The findings highlight the importance of considering regional cultural and social contexts in public health interventions aimed at reducing loneliness among older adults. The study underscores the need for targeted strategies that address the unique social dynamics of the Baltic and Nordic regions. Innovative public health actions, such as community engagement programs and policy development, are recommended to alleviate loneliness in these populations.

Key messages:

- Significant regional differences in loneliness in the Baltic-Nordic region underscore the need for tailored public health interventions.
- Employment and social welfare are key factors in mitigating loneliness among older adults, highlighting the importance of socioeconomic support systems.

Abstract citation ID: ckae144.2300
Catching-Up in Islamabad, Pakistan: Identifying and Reaching Zero-Dose Children Following the COVID-19

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Background: Routine Immunisation (RI) is critical in mitigating child morbidity and mortality while preventing the spread of infectious diseases. Nevertheless, the COVID-19 pandemic has resulted in considerable disruptions, which have given rise to an unprecedented number of zero-dose (ZD) infants. It has presented formidable obstacles for healthcare systems on an international scale.

Methods: The study employed a retrospective analysis of data obtained from thirteen Supplementary Immunisation Activities (SIAs) that were carried out from 2019 to 2021 to investigate the fluctuations in the documented number of children with ZD. Health authority stakeholder interviews yielded valuable insights about vaccination strategies and obstacles.

Results: An enormous increase in the number of documented ZD minors were identified during the study period. The number of documented ZD minors rose from 3,827 in 2019 to 4,271 in 2020, and then again to 9,620 in 2021. Notwithstanding diligent attempts to immunise ZD children, the vaccination rate persisted at a less-than-ideal 81.24% of documented ZD children in 2021.

Conclusions: As a result of the COVID-19 pandemic, pre-existing obstacles to accessing ZD infants in Islamabad were further intensified. The lessons learned emphasise the significance of community engagement, improved outreach strategies, and fortified healthcare infrastructure in guaranteeing comprehensive immunisation coverage. It is imperative to confront these challenges to reduce the likelihood of subsequent epidemics and protect children's health.

Key messages:

- The spread of COVID-19 among ZD neonates in Islamabad accelerated, prompting calls for improved vaccination programmes.
- The suboptimal ZD vaccination rate in 2021, despite concerted efforts, underscores the criticality for enhanced strategies.

Abstract citation ID: ckae144.2301
Body mass index change and risk of poor oral health in Norwegian adults: the HUNT longitudinal study

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Background: Oral diseases and obesity share common risk factors and are highly prevalent. However, the relationships between body mass index (BMI), BMI change and oral health conditions in adults are less studied. In this study, we investigate the associations of long-term obesity and BMI change with risk of poor self-rated oral health among adults.

Methods: This study include individuals aged 29-90 years (57.8 % women, mean age at baseline, HUNT3, was 54.9 years) who participated in the first (HUNT1, 1984-86), second (HUNT2, 1995-97), third (HUNT3, 2006-08) and fourth (HUNT4, 2017-19) survey of the Trondelag Health Study (HUNT). Weight and height were measured at each survey. We estimated average BMI values and BMI change over a 10-year (HUNT2- HUNT3, N = 19,729) and 20-year (HUNT1- HUNT3, N = 14,276) period and linked to their information on oral health status at HUNT4. We employed logistic regression models with adjustment for confounders and computed odds ratio (OR) with 95 % Confidence Interval (CI).

Results: At HUNT4, 1812 (9.2 %) participants rated their oral health as poor or very poor. The multivariable-adjusted ORs for average BMI over 30 kg/m2 were 1.3 (95 % CI: 1.1-1.5) and 1.2 (95 % CI: 1.0-1.5) over a 10-year and 20-year period, respectively, when compared to normal weight. After adjustment for most recent BMI (HUNT4), the associations of long-term obesity with poor self-rated oral health weakened. Compared with stable BMI, both loss and gain in BMI over a 10-year period were associated with increased risk of poor oral health. In the adjusted analysis, we found that a BMI loss of more than 2.5 kg/m2 and a BMI gain of more than 5 kg/m2 was associated with 1.5 times (OR = 1.5, 95 % CI: 1.1-1.9) and 1.3 times (OR = 1.3, 95 % CI: 1.1-1.6) greater risk of poor oral health.

Conclusions: Our findings suggest that individuals with long-term obesity and BMI change have a markedly higher risk of poor self-rated oral health.

Key messages:

- Long-term obesity was associated with increased risk of poor self-rated oral health.
- Compared with stable body mass index (BMI), loss- and gain in BMI were associated with increased risk of poor self-rated oral health.

Abstract citation ID: ckae144.2302
A Qualitative Study Evaluating the Challenges of Orthopedists and Internists in the Earthquake Zone

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Background: The earthquake centered in Kahramanmaras province, Turkey, on February 6, 2023, with a magnitude of 7.7, resulted in the loss of 53,537 lives and the injury of 107,213 people. This study was conducted to evaluate the challenges and experiences of physicians who provided post-disaster medical care.

Methods: We conducted a qualitative study with orthopedists and internists who had worked in the earthquake zone using in-depth interviews. Participants were selected through snowball sampling. Interviews explored challenges in the disaster zone, obstacles related to healthcare services, and disaster management. Thematic analysis was used.

Results: A total of 13 physicians participated in the study. Data revealed four main themes: disaster management, organizational deficiencies, challenges faced, and logistical issues. Participants indicated that the Ministry of Health didn't have a priori operational emergency action plan, which led to problems in healthcare service delivery. Some physicians complained that they had to serve just as emergency consultants and were not able to carry out tasks compatible with their expertise. Some indicated that they organized the services rather than providing medical care. Almost all encountered a variety of interesting cases and evaluated their experience as significant. Logistical needs were met mostly with the support of non-governmental organizations.

Conclusions: We need to have a priori operational emergency action plan to ensure the effective delivery of healthcare services in the aftermath of a disaster. The Ministry of Health needs to allocate and coordinate healthcare personnel in line with their areas of expertise and prevent service disruptions.

Key messages:

- There is a need to make an operational emergency action plan beforehand to deliver healthcare services effectively following a disaster.
- Physicians should be allocated in line with their specialty of expertise to efficiently address the healthcare needs.

Abstract citation ID: ckae144.2303
Interrogating the environmental and social correlates of health risk behaviours in West Africa

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Background: Despite the high incidences of health risk behaviors (HRBs) in sub-Saharan Africa, studies on the contextual determinants of HRBs across countries are generally lacking, concentrated on isolated countries and often focus solely on specific health behaviors. Thus, this study investigated the environmental and social correlates of HRBs in West Africa.

Methods: Data was from post-2015 Demographic and Health Surveys in three West African countries of Benin, Mali and Nigeria. A composite outcome variable of health risk behaviors (HRBs) was derived from variables of tobacco smoking, intimate partner violence, overweight/obesity and risky sexual behaviors. The contextual variables were normalized difference vegetation index, precipitation, maximum and minimum temperatures, region of residence and population Density. Data analysis involved descriptive statistics, chi square test, geographical mapping, and multilevel logistic regression.

Results: The engagement in HRBs varied from 42.65% in Nigeria to 42.88% in Benin and 51.06% in Mali as there are spatial variations in the engagement in HRBs within different regions of these countries. There also existed significant variations in HRBs regarding age, education, employment status, wealth index, household size, place of residence, and region of residence in the three countries. In the contextual models of environmental and social factors, population density significantly increased odds of HRBs in the three countries, maximum temperature significantly increased odds of HRBs in Benin and Mali, while precipitation significantly increased odds of HRBs in Nigeria and Mali. Other factors which significantly increased odds of HRBs across the three countries were increase in age, wealth index, households with 9+ persons, and regions of residence.

Conclusions: These findings suggest that among other things, changes in lifestyles regarding the different HRBs should be emphasized in specific contextual situations

Key messages:

- There are variations in engagement in health risk behaviours across the countries.
- Cliamte variables influence engagement in health risk behaviours.