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www.simid.be

www.uhasselt.be/dsi-covid19

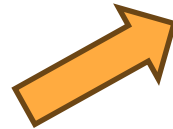
www.socialcontactdata.org

www.infectieradar.be

SIMID

Simulation Models of Infectious Diseases

UNamur & VUB



Main research focus:

- ‘pandemic preparedness’
- projects at different levels:
 - Modelling Consortium - BE-PIN
(<https://www.pandemicintelligence.be/>)
 - European project: Escape
(<https://www.escapepandemics.com/>)
 - WHO specific working groups
- primary care
 - surveillance
 - risk assessment
 - collaboration

Primary care study day
15 October 2024

Surveillance



Different surveillance systems

- complementary streams



Prediction & early warning

Epidemiol. Infect. (2013), **141**, 2196–2204. © Cambridge University Press 2012
doi:10.1017/S0950268812002506

Contribution of respiratory pathogens to influenza-like illness consultations

K. BOLLAERTS^{1*}, J. ANTOINE¹, V. VAN CASTEREN¹, G. DUCOFFRE¹,
N. HENS^{2,3} AND S. QUOILIN¹

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Michiels et al. *BMC Infectious Diseases* (2017) 17:84
DOI 10.1186/s12879-016-2175-x

BMC Infectious Diseases

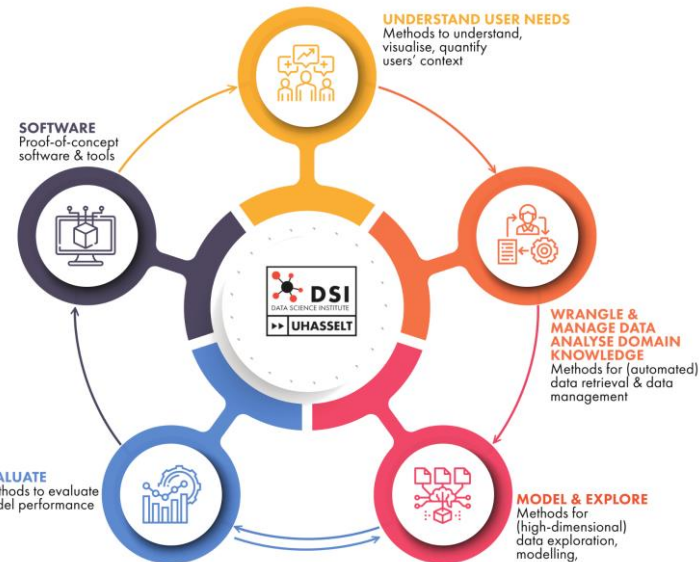
RESEARCH ARTICLE

Open Access



Influenza epidemic surveillance and prediction based on electronic health record data from an out-of-hours general practitioner cooperative: model development and validation on 2003–2015 data

Barbara Michiels^{1*}, Van Kinh Nguyen^{2,3}, Samuel Coenen^{1,4,5}, Philippe Ryckeboesch¹, Nathalie Bossuyt⁶ and Niel Hens^{5,7,8}



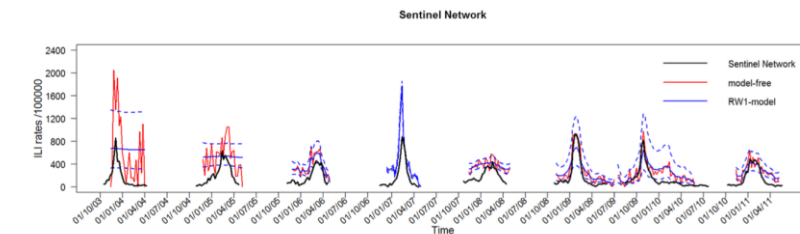
OPEN ACCESS Freely available online



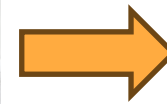
Eight Years of the Great Influenza Survey to Monitor Influenza-Like Illness in Flanders

Yannick Vandendijck^{1*}, Christel Faes¹, Niel Hens^{1,2}

¹ Interuniversity Institute for Biostatistics and statistical Bioinformatics, Hasselt University, Diepenbeek, Belgium, ² Centre for Health Economic Research and Modeling Infectious Diseases, Vaccine and Infectious Disease Institute, University of Antwerp, Wilrijk, Belgium

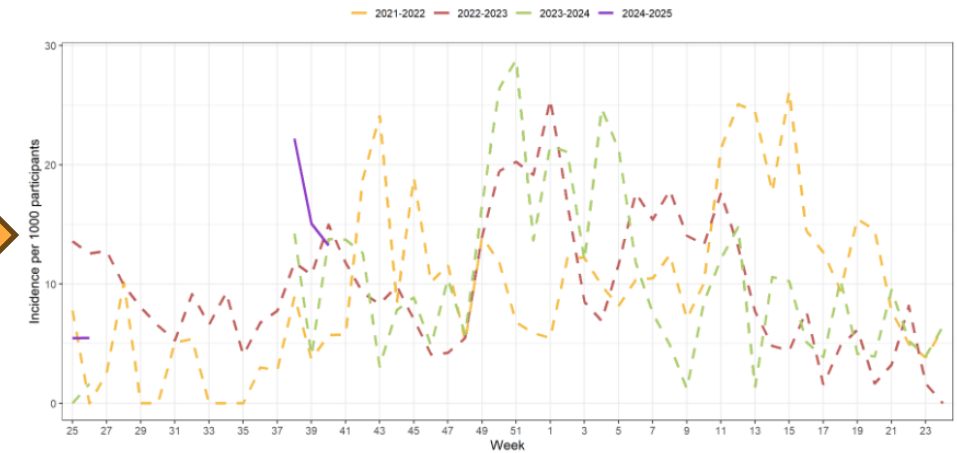


Infectieradar



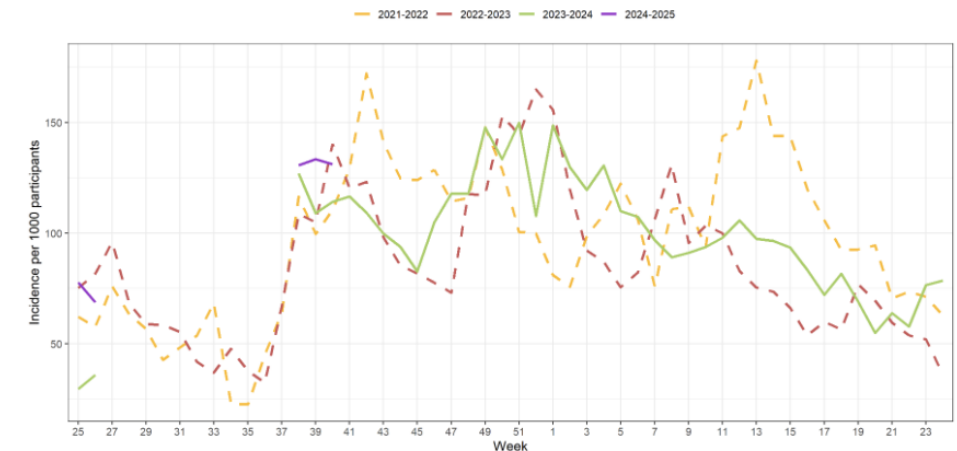
Trend line flu-like symptoms

This graph shows the number of participants per 1000 with flu-like symptoms over time.



Trend line COVID-19-like complaints

This graph shows the number of participants per 1000 with COVID-19-like complaints over time.



Attitudes towards booster, testing and isolation, and their impact on COVID-19 response in winter 2022/2023 in France, Belgium, and Italy: a cross-sectional survey and modelling study

Giulia de Meijere^{a,b} Eugenio Valdano^c Claudio Castellano^{b,d} Marion Debin^c Charly Kengne-Kuetche^c Clément Turbelin^c Harold Noël^e Joshua S. Weitz^{f,g,h} Daniela Paolottiⁱ Lisa Hermans^j Niel Hens^{j,k} and Vittoria Colizza^{c,*}

Risk assessment



- Primary care zones (ELZ)
 - contact tracing
 - vaccination willingness
- Primary care



Infectious Disease Modelling 9 (2024) 926–930

KeAi
CHINESE ROOTS
GLOBAL IMPACT

Contents lists available at ScienceDirect

Infectious Disease Modelling

journal homepage: www.keaipublishing.com/idm



Chronic disease patients have fewer social contacts: A pilot survey with implications for transmission dynamics



J. Vanderlocht^a, S. Møgelmoose^a, K. Van Kerckhove^a, P. Beutels^b, N. Hens^{a, b, *}

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^b Centre for Health Economic Research and Modelling Infectious Diseases, University of Antwerp, Antwerp, Belgium

Research

Robin Bruyndonckx, Niel Hens, Theo JM Verheij, Marc Aerts, Margareta Ieven, Christopher C Butler, Paul Little, Herman Goossens, Samuel Coenen and the GRACE project group

Development of a prediction tool for patients presenting with acute cough in primary care:

a prognostic study spanning six European countries



Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine



Identifying immunity gaps for measles using Belgian serial serology data



Julie Schenk^{a, *}, Steven Abrams^{a, b}, Amber Litzroth^c, Laura Cornelissen^c, Tine Grammens^c, Heidi Theeten^{d, e}, Niel Hens^{a, f}

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Collaboration



THE LANCET

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CORRESPONDENCE · Volume 401, Issue 10391, P1847, June 03, 2023

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Primary health care: a cornerstone of pandemic prevention, preparedness, response, and recovery

[Arush Lal](#)^{a,b}  [Nina Schwalbe](#)^{c,d,e}

- promote health
- forge trust
- combat misinformation and disinformation

DOI: 10.1377/hlthaff.2023.00688
HEALTH AFFAIRS 42,
NO. 12 (2023): 1630-1636
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Scan me!

GLOBAL HEALTH POLICY

By Mark Jit, Kylie Ainslie, Christian Althaus, Constantino Caetano, Vittoria Colizza, Daniela Paolotti, Philippe Beutels, Lander Willem, John Edmunds, Baltazar Nunes, Sónia Namorado, Christel Faes, Nicola Low, Jacco Wallinga, and Niel Hens

COMMENTARY

Reflections On Epidemiological Modeling To Inform Policy During The COVID-19 Pandemic In Western Europe, 2020-23

What I didn't talk about that much:

- Antibiotic use (prescription behaviour)
- Collaboration INTEGO
- Population health management
- Data science perspective (federated data analysis)