

# HERA SYMPOSIUM ON STRENGTHENING GENOMIC SEQUENCING CAPACITIES FOR OUTBREAK PREPAREDNESS AND RESPONSE

HERA-BE-WGS (be.Prepared)

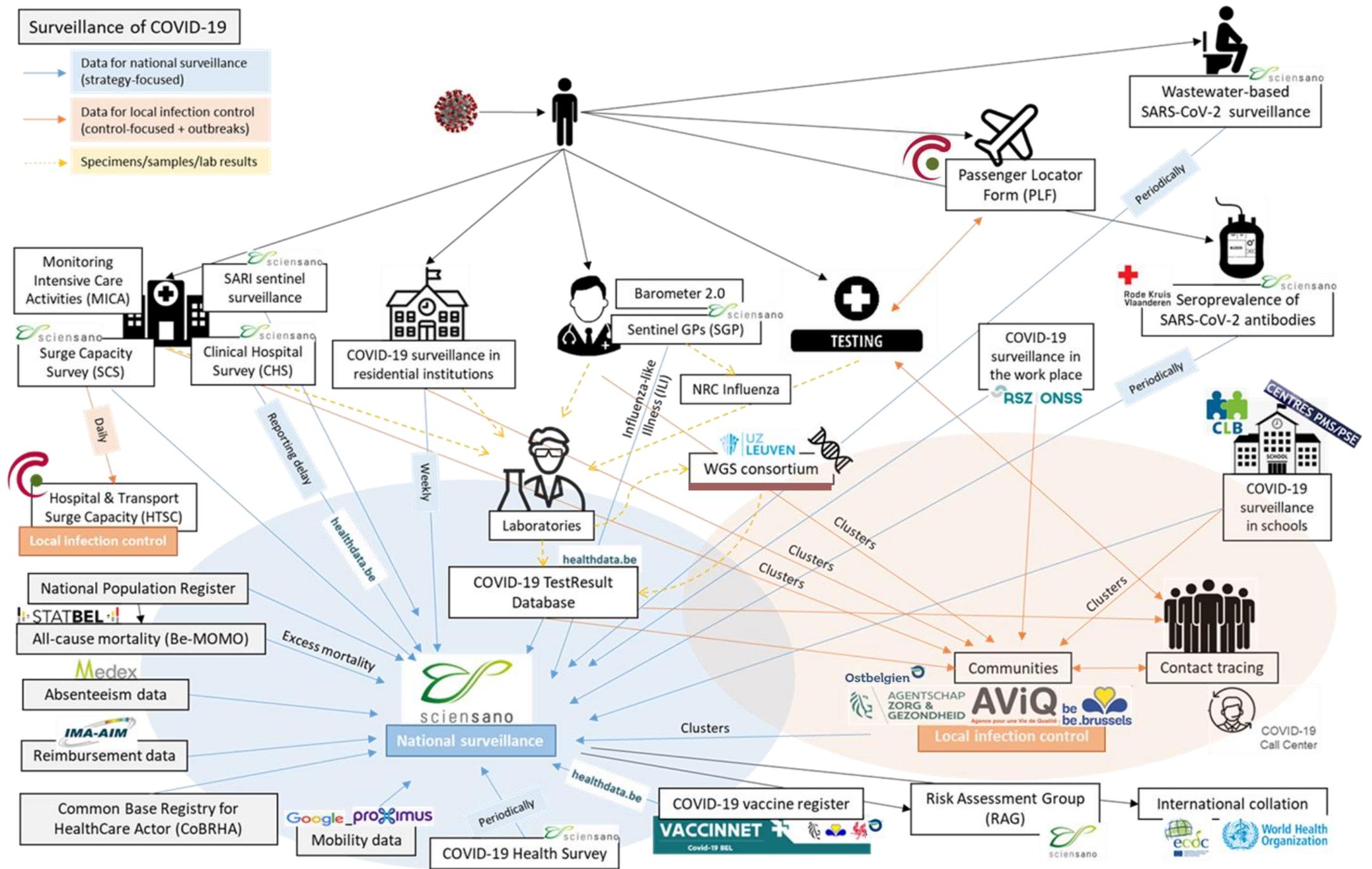
*Amber Van Laer*

04/06/2025, Brussels

# Projectfiche HERA-BE-WGS (be.Prepared)

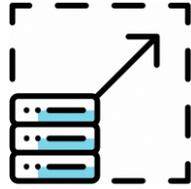
<b>Name/acronym</b>	Consolidation of national infrastructure for combined genomic-epidemiologic surveillance of infectious diseases – HERA-BE-WGS ( <b>be.Prepared</b> )
<b>Period</b>	01/01/2023 - <del>31/12/2024</del> 30/06/2025
<b>Contractual status</b>	Direct Grant to MS, EU4Health WP 2023, Crisis Preparedness
<b>Involved services (Sciensano)</b>	Epidemiology of Infectious Diseases, Bacterial/Viral diseases, Transversal activities in Applied Genomics (TAG), Laboratory Information Management System (LIMS), Healthdata.be
<b>Objectives</b>	<ol style="list-style-type: none"><li>1. Data <b>collection and processing of microbial genomic data</b> for the surveillance of infectious diseases</li><li>2. <b>Secure, national platform</b> for (microial genomic) cluster analysis and visualization</li><li>3. Database for <b>the integration of microbial genomic, laboratory, and clinical – epidemiological data</b> of infectious diseases</li></ol> <p>▶ Proof-of-concept for <b>6 pathogens</b>: <i>Salmonella</i> spp., <i>Listeria monocytogenes</i>, <i>Mycobacterium tuberculosis</i>, Influenza, SARS-CoV-2 and <i>Neisseria meningitidis</i></p>

"Never waste a good crisis ..."





Collection, storage,  
treatment & linkage of  
(meta-)data



Deals with ever-  
expanding volumes of  
information



Provides different data &  
tools to different types of  
users

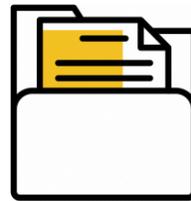


Ensures data safety &  
restriction to specific  
end-users

**... to develop the ideal digital information infrastructure”**



Harmonized with  
regional, national &  
international networks



Complies with  
local/national  
regulations

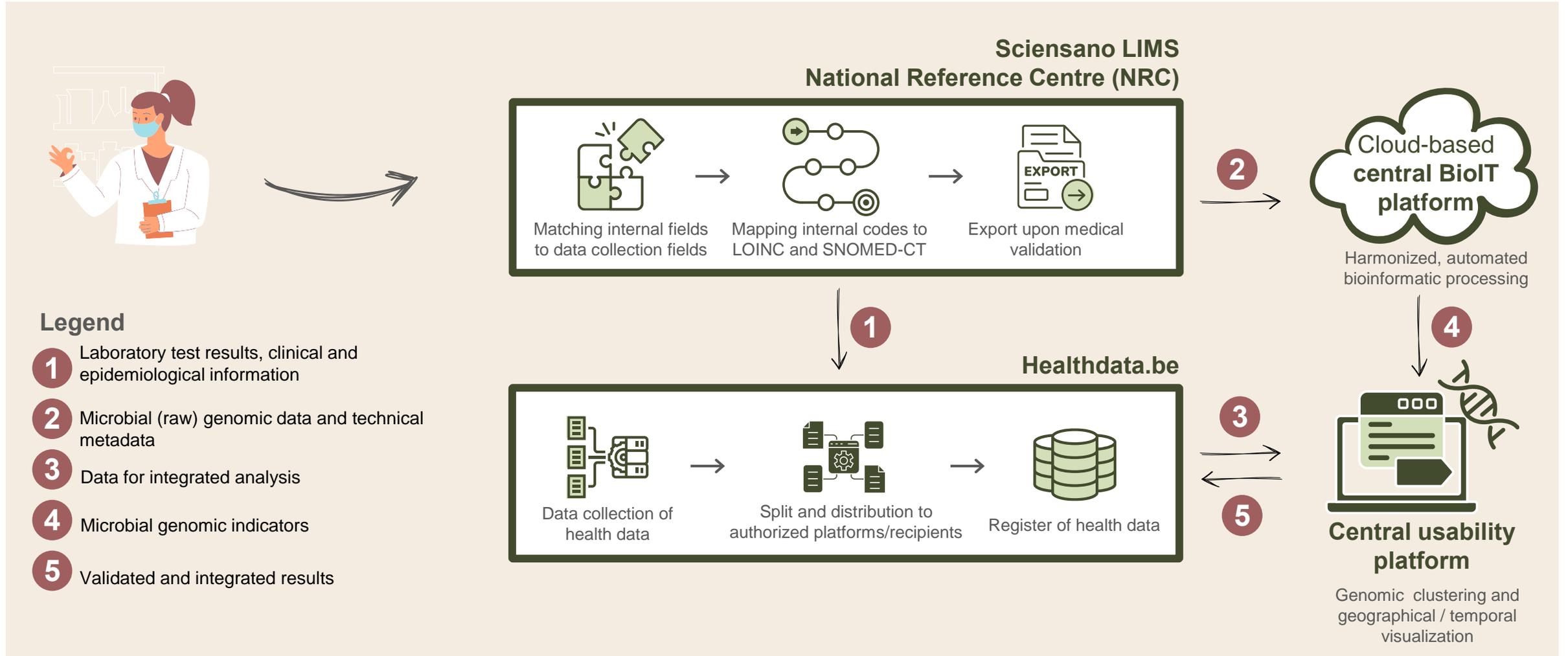


Follows principles of  
interoperability & reusability



Provides high-quality  
data & standardization

# be.Prepared infrastructure



# Main achievements

- ✓ **Automated, near real-time export** of data from use case NRCs (post-medical validation)
- ✓ **Standardized reporting** using SNOMED-CT and LOINC codes
- ✓ **GDRP-compliant data processing** (with approval of Information Security Committee)
  - **Nominative:** For outbreak investigation support, response, and pandemic preparedness
  - **Pseudonymized:** For surveillance and epidemiological follow-up
- ✓ **Integration of microbial genomic data** using a cloud-based BioIT and usability platform
- ✓ **Processing and linking of clinical and epidemiological data** with microbial genomic data for richer analysis

# Remaining gaps and strategic needs

## ► Gaps

**Sustainable financing:** be.Prepared heavily relies on *project-based funding*.

**Limited *a priori* investment of WGS for public health:** Return on investment of WGS for genomic epidemiology is still undervalued and needs to be more widely recognized.

# Remaining gaps and strategic needs

## ► Gaps

**Sustainable financing:** be.Prepared heavily relies on *project-based funding*.

**Limited *a priori* investment of WGS for public health:** Return on investment of WGS for genomic epidemiology is still undervalued and needs to be more widely recognized.

## ► Needs

**Cross-sectoral integration:** Integration of human, food, animal, and environmental data to realize One Health Surveillance.

**Expanded data linkage:** Coupling of additional, relevant data sources (e.g. vaccination data, socio-demographic data) to enrich interpretation and action.

**Strategic alignment:** Aligning with parallel initiatives to maximize synergies and impact within and across Member States.

# Short-term prospects of be.Prepared



European project / funding until 30/06/2025 to **operationalize for routine-use and pandemic preparedness:**

- central BioIT platform for NRC use cases
- central usability platform for NRC use cases
- healthdata.be platform for NRC data collections (*Salmonella* spp., Influenza, *Listeria monocytogenes*, *Mycobacterium tuberculosis* and *Neisseria meningitidis*)



**Onboarding** of additional NRCs (e.g. Enterococci, Antibiotic Resistant Gram Negative Bacilli)



**Expansion** of the usability of the infrastructure via various national proposals (pending decision)

## HERA-BE-WGS/be.Prepared initiative members

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Eric Mairiaux  
Heleen Masset  
Kato Milis  
Kevin Vanneste  
*and many more*

Scan for more information



Questions or remarks?

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## In collaboration with Sciensano services:

Bacterial Diseases, Epidemiology of Infectious Diseases,  
Healthdata.be, LIMS, Quality of laboratories, Transversal  
activities in Applied Genomics, Viral Diseases

The project HERA-BE-WGS for the development of be.Prepared is granted under the EU4Health Programme (action EU4H-2022-DGA-MS-IBA-1) with the Grant Agreement no. 101113063. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or HaDEA. Neither the European Union nor the granting authorities can be held responsible for them.