

Never let a good crisis to waste : The impact of COVID-19 on infectious disease surveillance in Belgium

“Never let a good crisis go to waste”



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Is the COVID-19 pandemic a surveillance game changer ?

Overview

1. Surveillance of influenza
2. Impact of COVID-19 on
 - Test data
 - Hospital data
3. Linking surveillance and administrative data
 - LINK-VACC
 - HELICON
4. Challenges for the future
5. Conclusion

Surveillance systems: influenza



Surveillance systems: influenza



Influenza Like Illness (ILI)



Surveillance systems: influenza



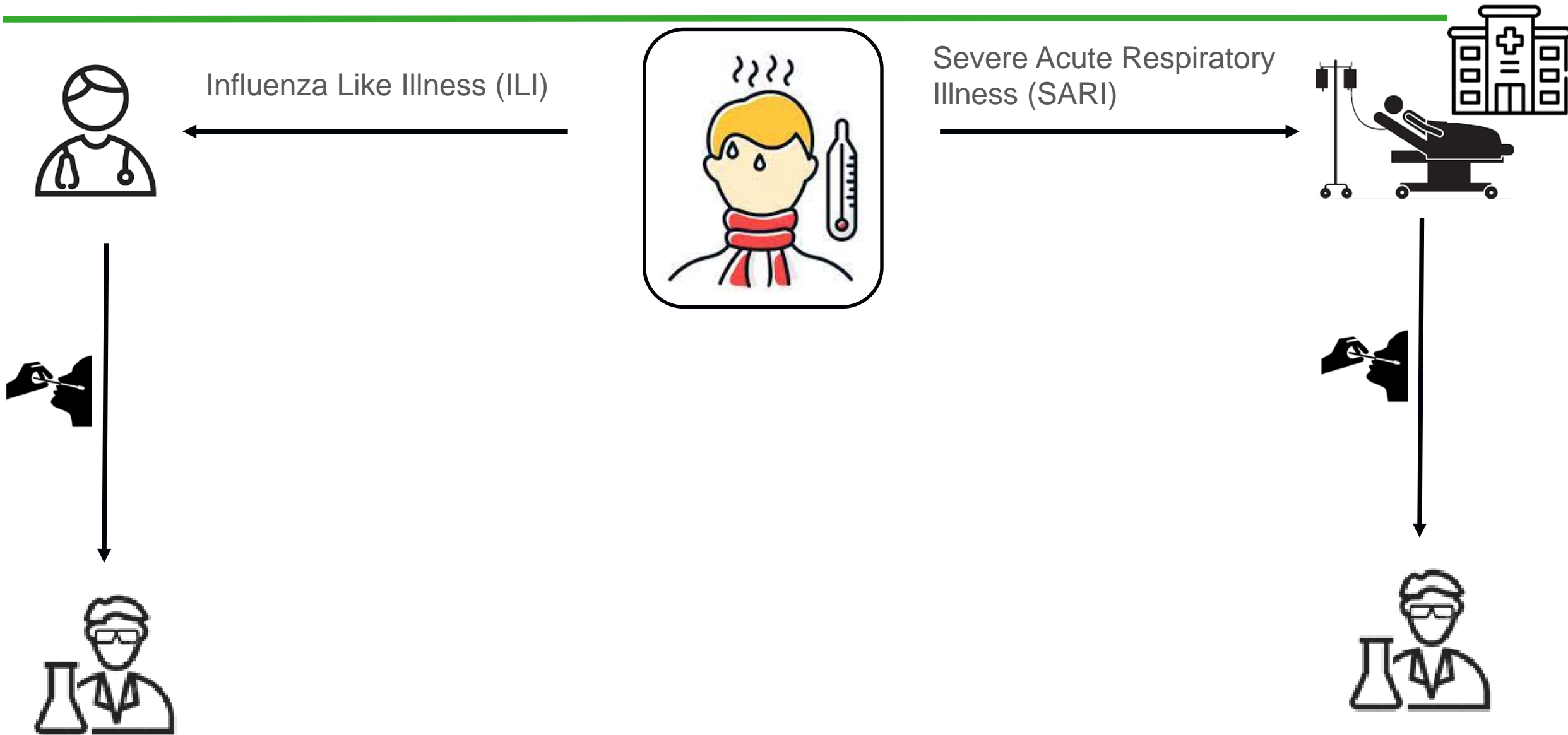
Influenza Like Illness (ILI)



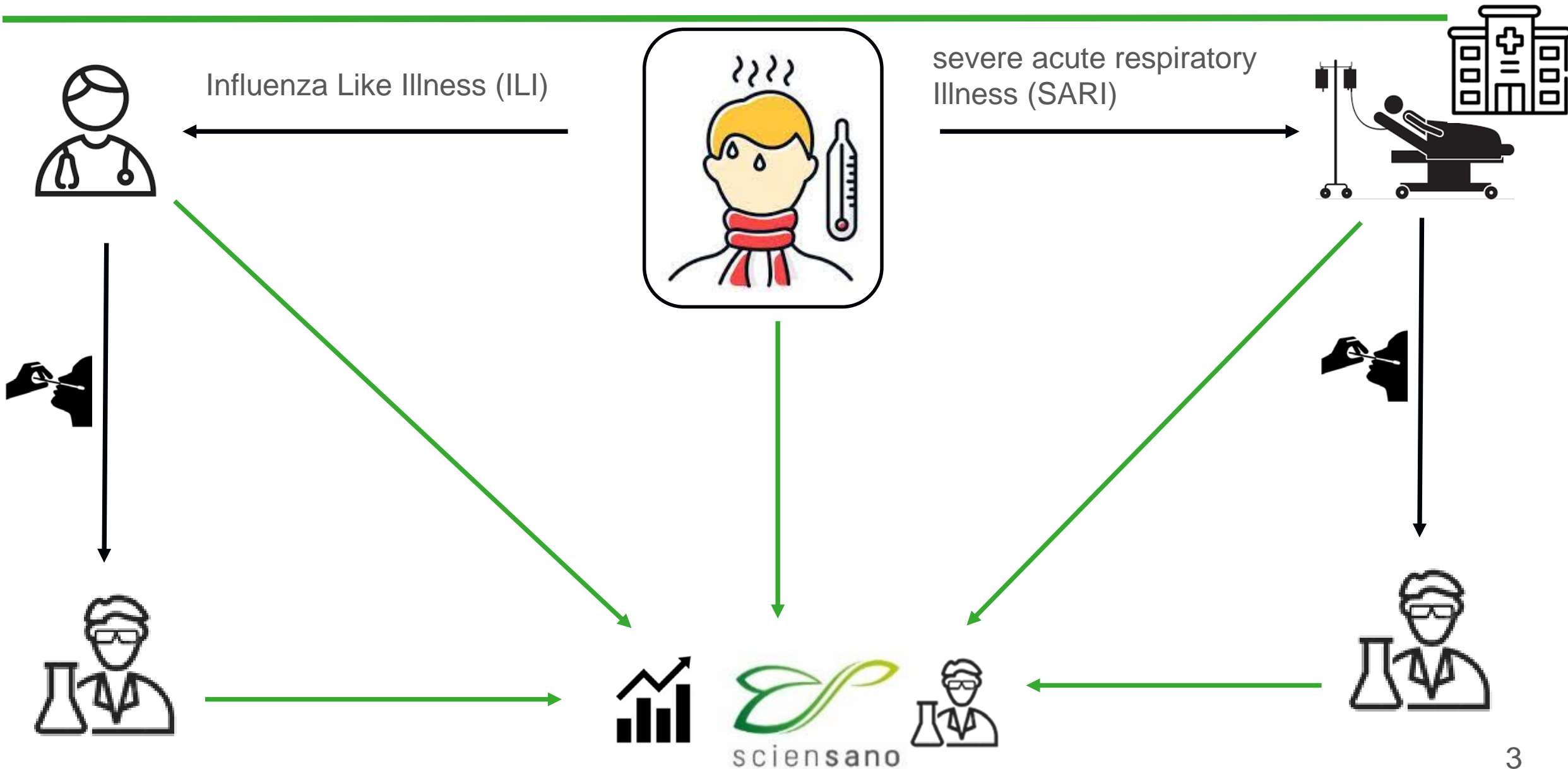
Severe Acute Respiratory
Illness (SARI)



Surveillance systems: influenza



Surveillance systems: influenza



Weekly epidemiological bulletin

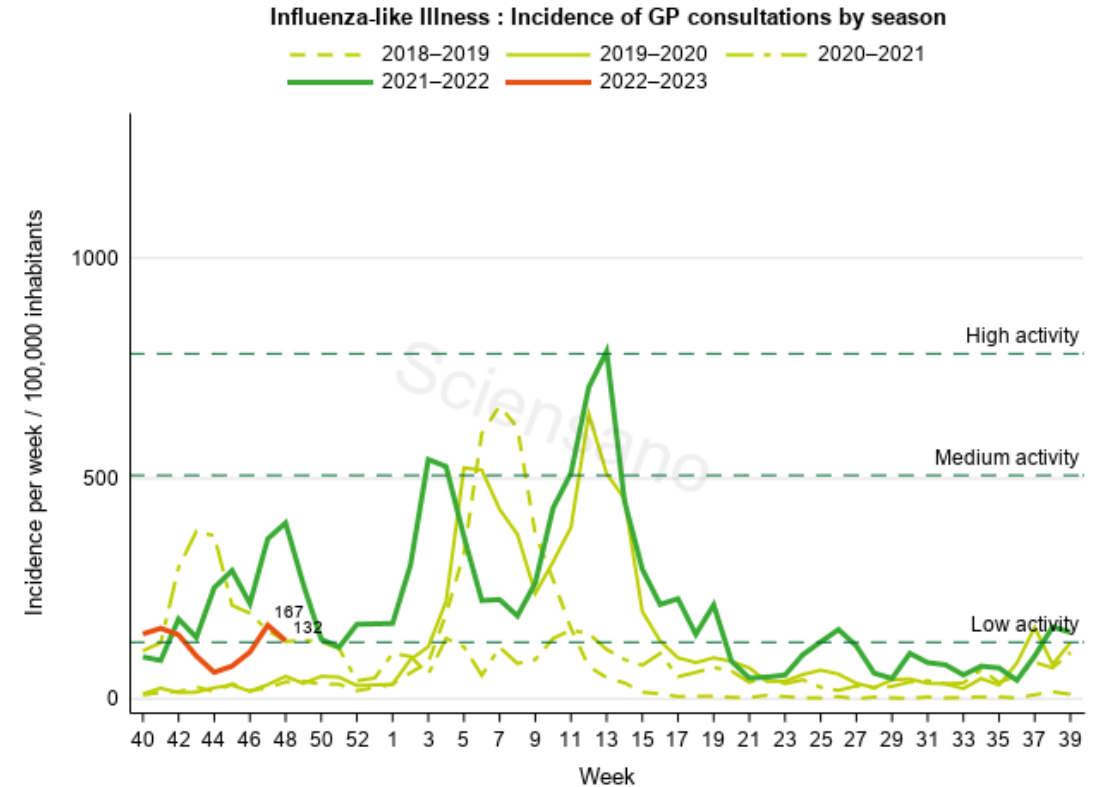
Wekelijks bulletin acute luchtweginfecties
Bulletin hebdomadaire infections respiratoires aiguës
Weekly bulletin acute respiratory infections

Semaine / week 47 (21/11/2022 – 27/11/2022)

Weekly epidemiological bulletin

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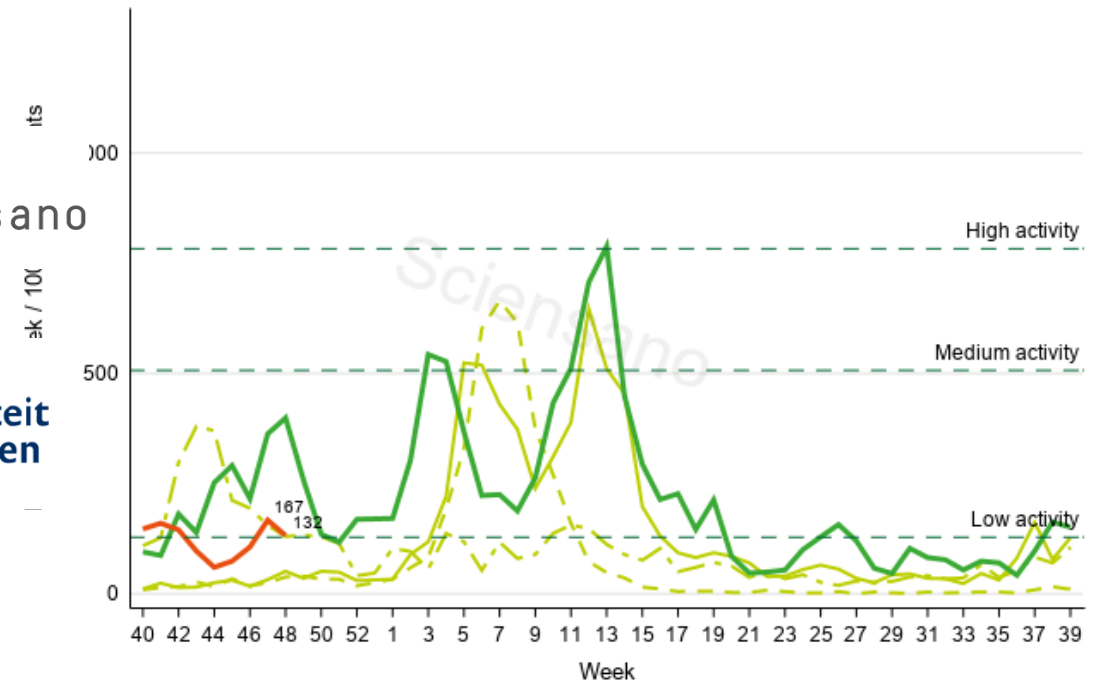
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Semaine / week 47 (21/11/2022 – 27/11/2022)



Influenza-like Illness : Incidence of GP consultations by season

--- 2018–2019 --- 2019–2020 --- 2020–2021
— 2021–2022 — 2022–2023



Impact COVID-19 on test data



Impact COVID-19 on test data



- **Sentinel GP surveillance**
- **Sentinel laboratory surveillance**
- **Positive cases**
- **Weekly reporting**

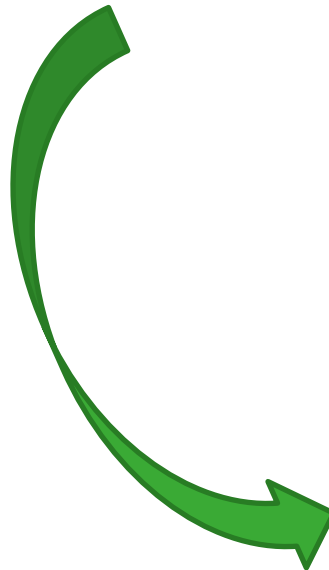
Impact COVID-19 on test data



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New expectations

- 1. Health authorities**
- 2. Academic science**
- 3. General public**



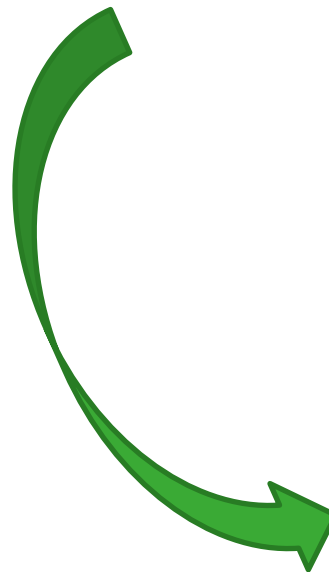
Impact COVID-19 on test data



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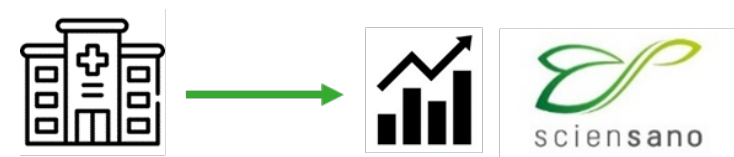
“Version 2.0”

- All prescriptions
- All test results
- Testing performance
- Genomic surveillance
- Linking data
- Real-time data
- Open data
- Other use than epidemiology

Impact COVID-19 on hospital data

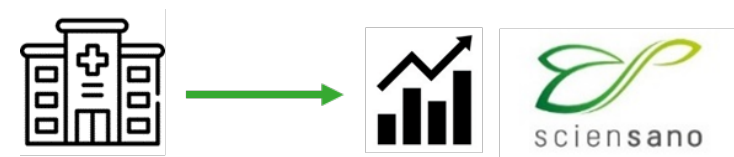


Impact COVID-19 on hospital data



- Existing **SARI surveillance**
- 10 March 2020 : **specific exhaustive COVID-19 data needed!**
- 15 march: 2 surveys implemented

Impact COVID-19 on hospital data



1. Surge Capacity Survey (SCS)

- ✓ Daily, mandatory, reporting by each hospital in Belgium
- ✓ Aggregated data : number of admission, discharge, ICU
- Occupancy rate of beds and medical devices
- Number of COVID-19 hospitalizations, discharges and deaths

Impact COVID-19 on hospital data



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2. Clinical Hospital Survey (CHS)

- ✓ Strongly recommended
- ✓ Individual data: NRN, symptoms, comorbidities, outcome, treatment
- Demographic and comorbidity profiles COVID-19 hospitalized patients
- Risk factors for Intensive Care Unit (ICU) admission and mortality

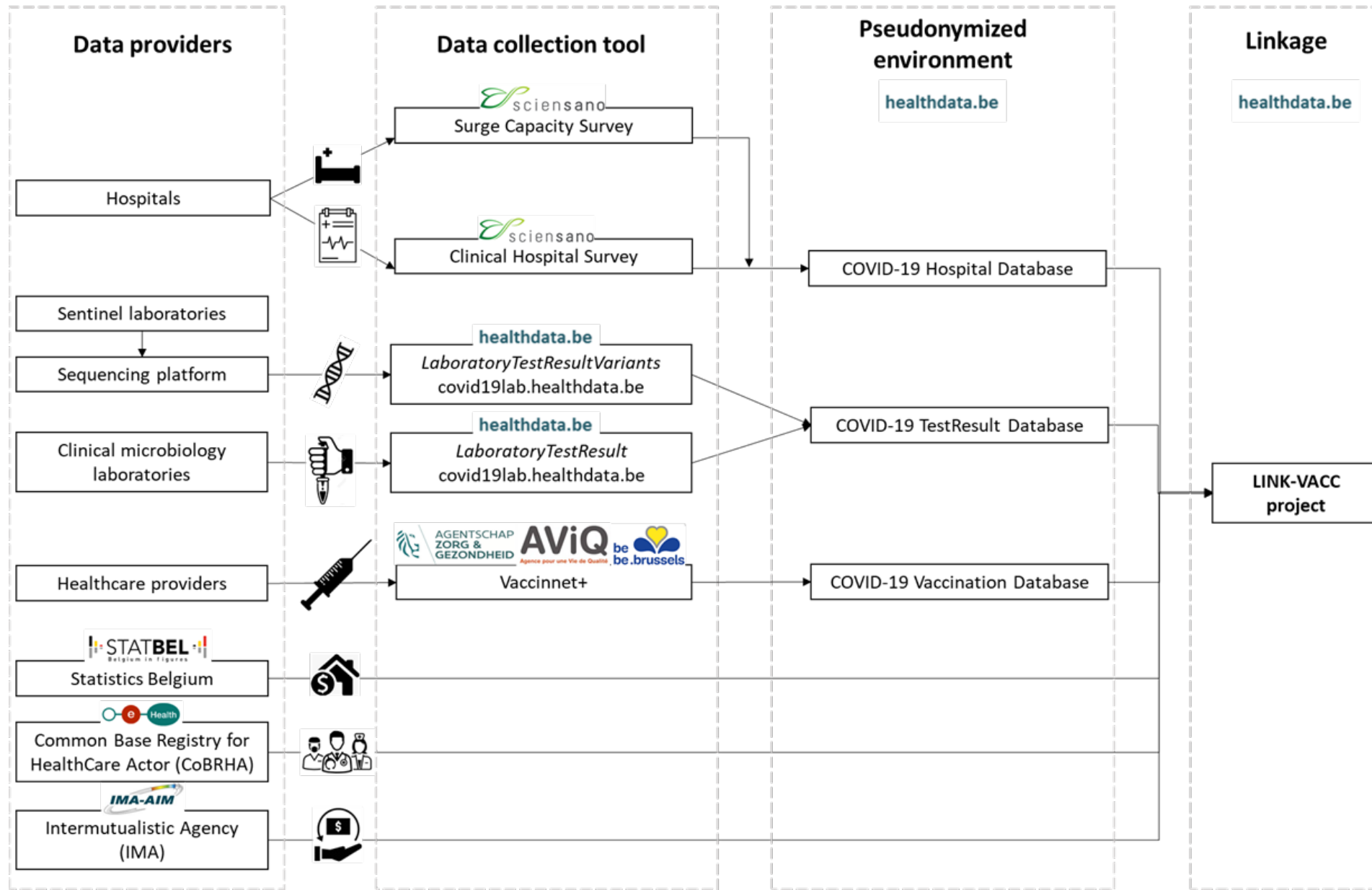
Linking surveillance and administrative data

- LINK-VACC
- HELICON
- No new data is collected, but existing data sets are linked

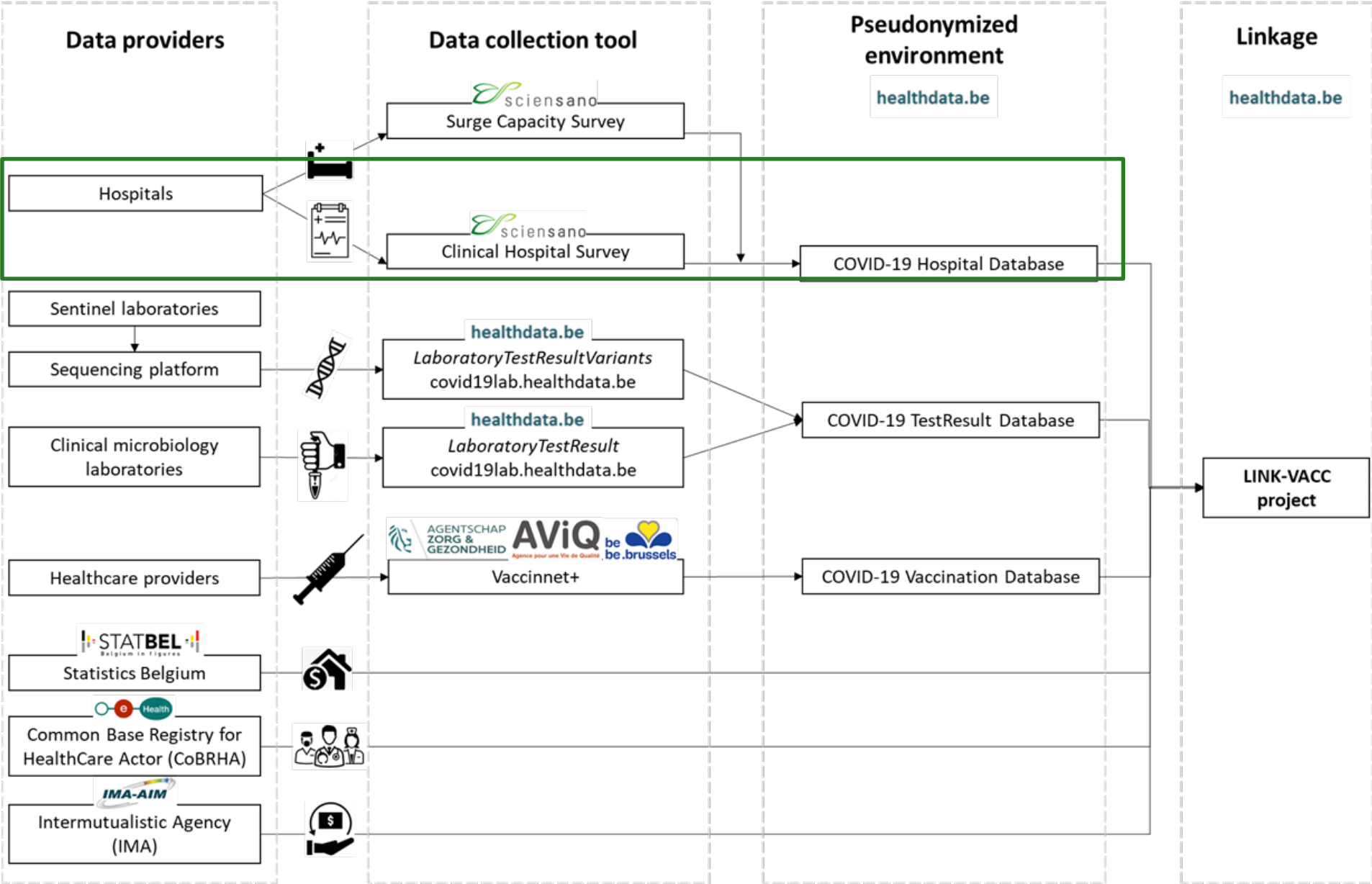
LINK-VACC project

- Follow-up vaccination uptake and coverage
- Estimation of vaccine effectiveness
- Take into account socio-economic/demographic characteristics
- Vaccine safety  federal agency for medicines and health products

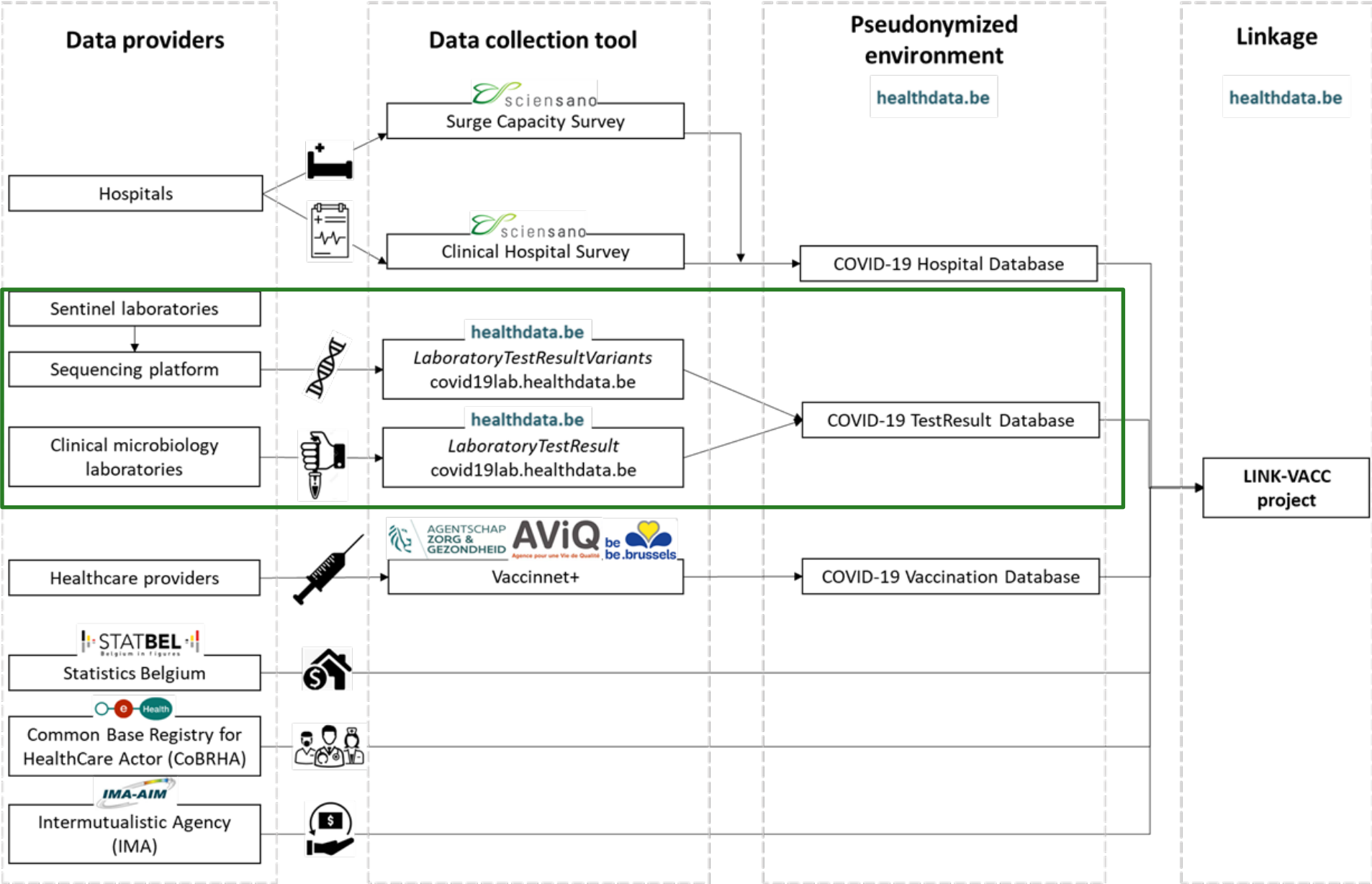
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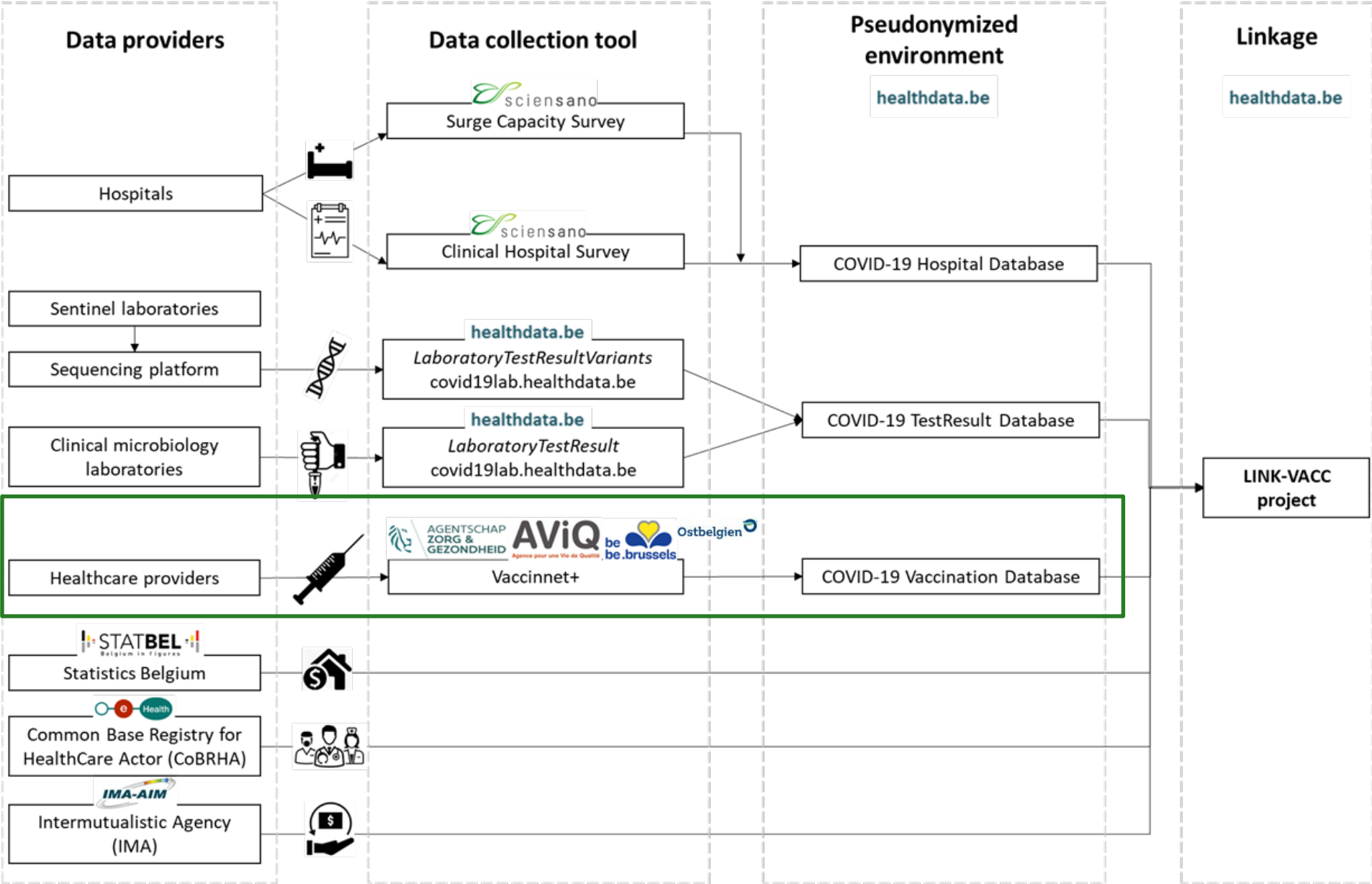
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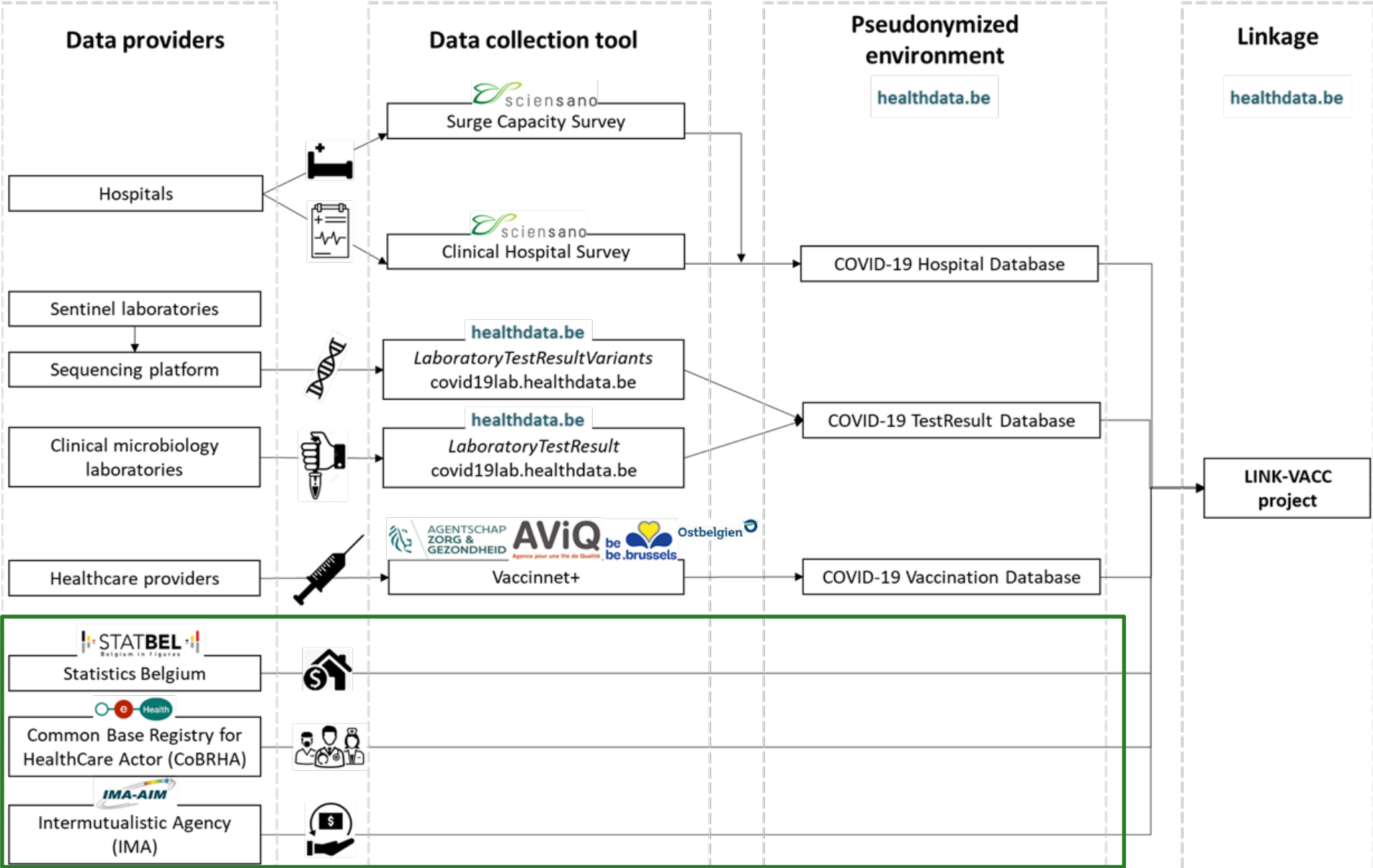
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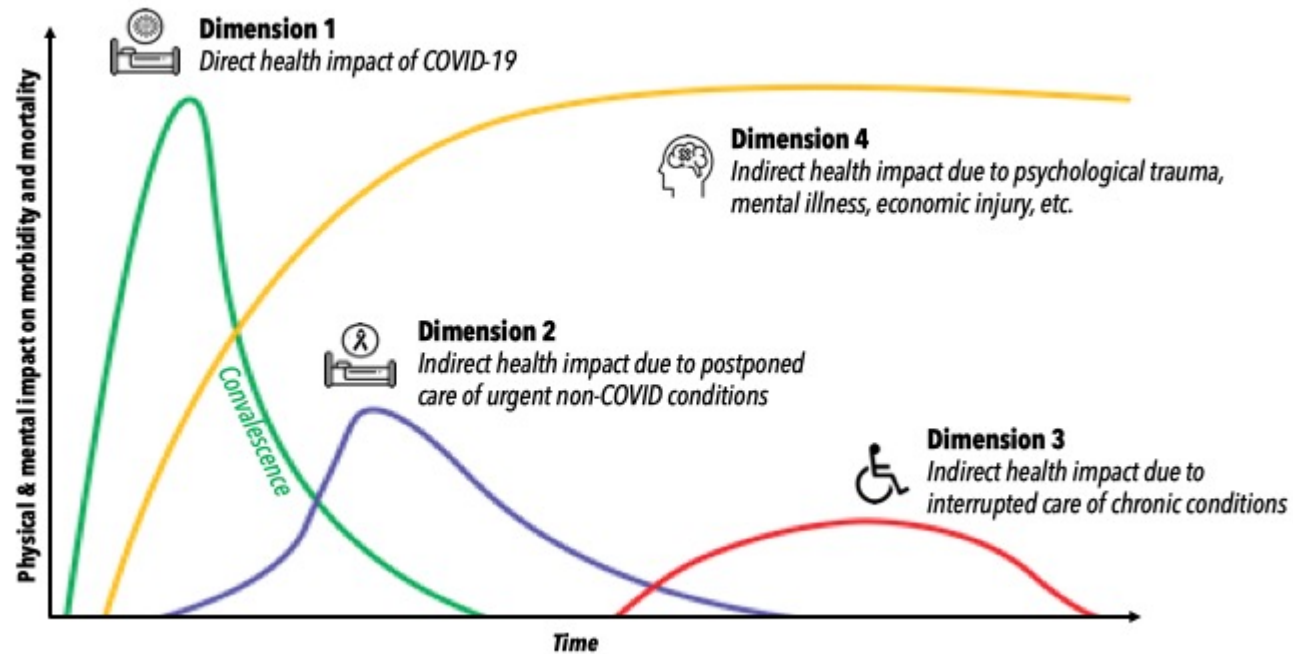
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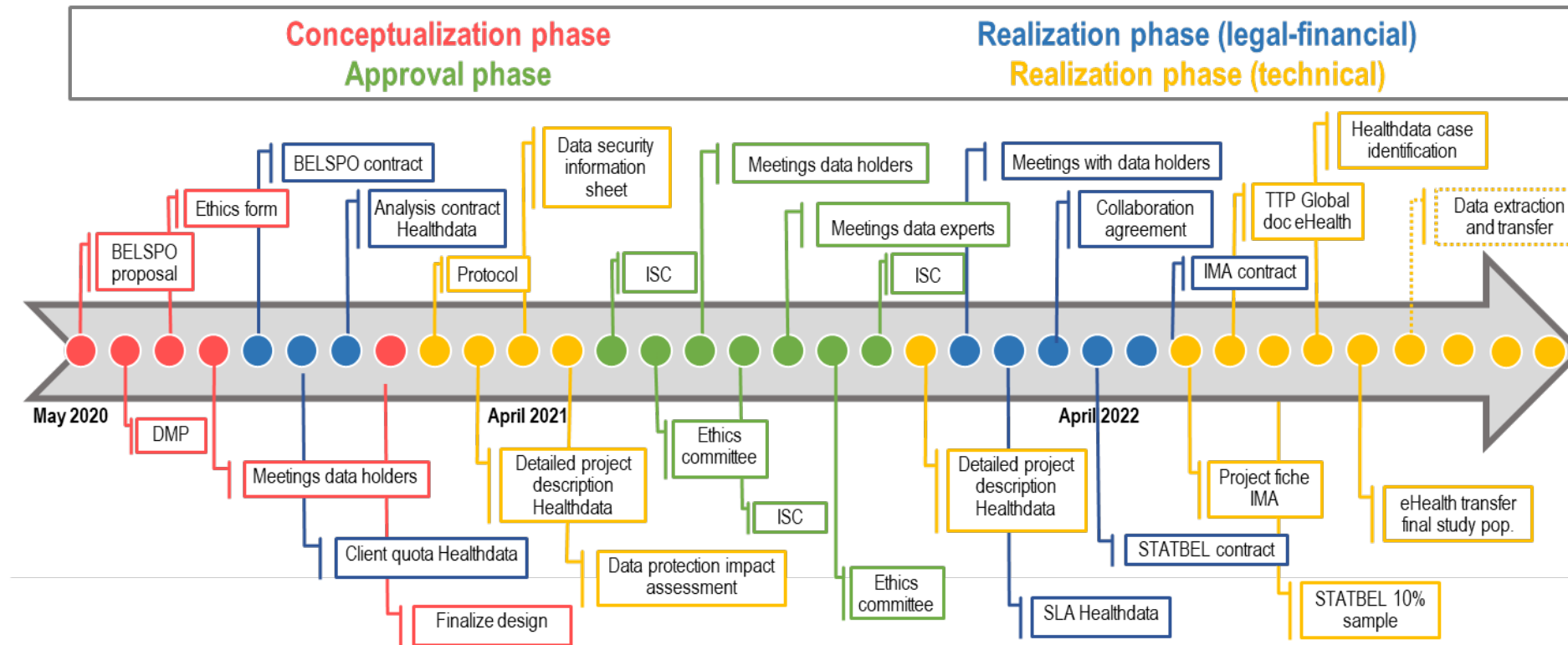
LINK-VACC project



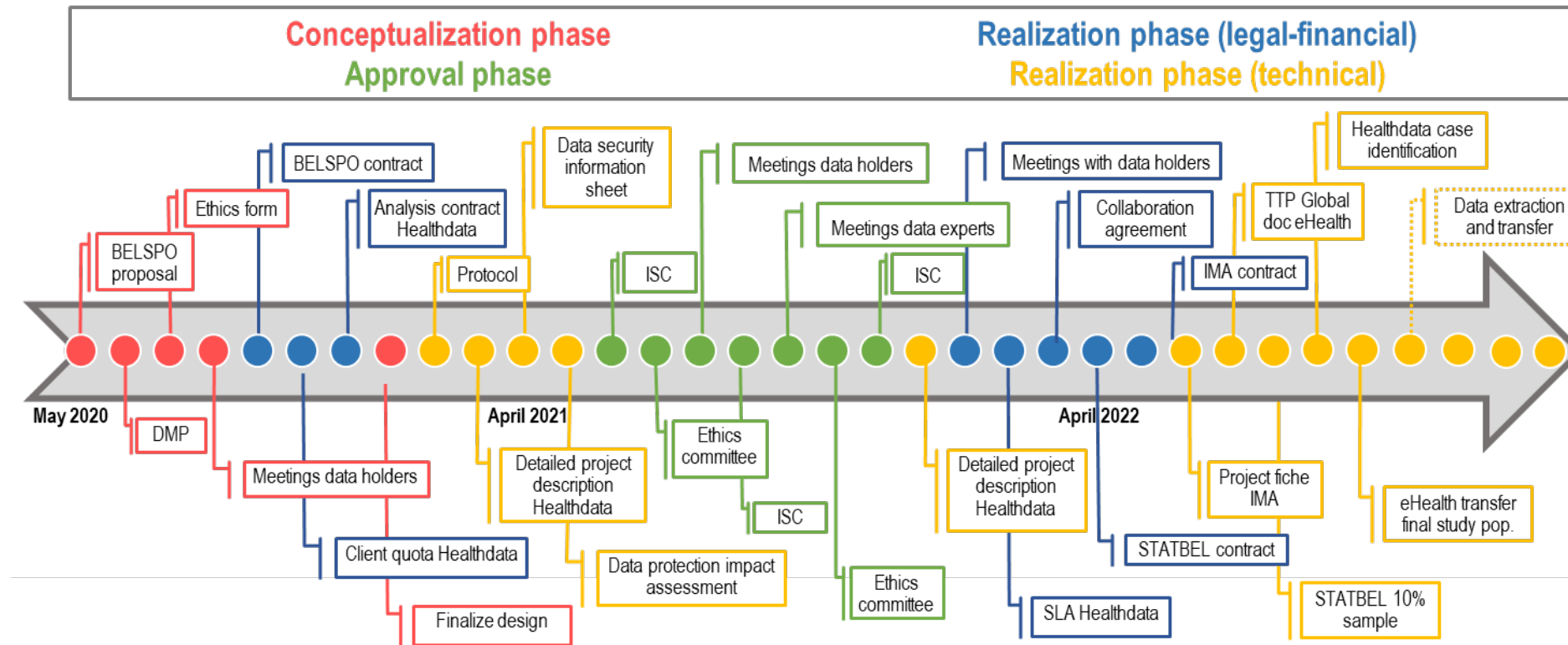
HELICON



HELICON : timeline of the past 2.5 years



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- Research Infrastructure with **routinely linked databases**
- **Generic approval** (including small cells) to use them for public health/policy support

Challenges

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1. **Improve surveillance and public health, integrate pandemic preparedness**
2. **Build further on what was possible in crisis time is essential**

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- 1. Improve surveillance and public health, integrate pandemic preparedness**
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What is needed:

- Sustainability +++
- Human resources & funding
- Extension of COVID-19 surveillance systems to other infectious diseases
- Further develop use of automatized data collections
- Facilitate linkage of administrative and surveillance data
- Balanced privacy / data protection regulations
- Technical/IT environment

Is the COVID-19 Pandemic a surveillance game changer ?

Momentum for important developments:

- Evolution of existing surveillance systems
- Implementation of new surveillance systems (many more than presented !)
- Data Linkage



1. Adapt our surveillance and control strategies to the epidemiological situation
2. Recover surveillance of non COVID-19
3. Put the expectations in perspective taking into account priorities & resources

references

- Acute Respiratory Infection Surveillance: <https://www.sciensano.be/en/health-topics/acute-respiratory-tract-infection/role>
- Weekly influenza bulletin: <https://www.sciensano.be/en/node/464>
- Sentinel GP network: <https://www.sciensano.be/en/network-general-practitioners>
- Meurisse M. et al. [One year of laboratory-based COVID-19 surveillance system in Belgium: main indicators and performance of the laboratories \(March 2020-21\)](#). Arch Public Health, 2021
- Van Goethem N. et al. [Rapid establishment of a national surveillance of COVID-19 hospitalizations in Belgium](#). Arch Public Health, 2020
- LINK-VACC: <https://www.sciensano.be/en/projects/linking-registers-covid-19-vaccine-surveillance>
- HELICON: <https://www.brain-helicon.be/>
- COVID-19: <https://covid-19.sciensano.be/fr>

Thank you for your attention !

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COVID-19 surveillance

