European perspective on COVID-19 data and comparability

HELICONference
April 27 2022

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www.phiri.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Data needs during the COVID-19 pandemic

- Need to identify data needs
- Need to identify available population health data
- Need for information on how to access these data
- Need to mobilize these data (in a timely manner)
- Need for innovative solutions for handling and analyzing sensitive health data
- Need for sharing data across institutions and across borders
- Need to exchange information on population health across borders

→Sounds familiar? These needs were also there BEFORE the crisis

→The crisis has magnified these needs and brought them to the spotlight

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History of addressing data needs on EU level

- BRIDGE Health (2015-2017)
  - 31 partners in 16 countries representing 14 population health research networks in 9 population health research domains.

➔Concluded there is need for a Research Infrastructure (RI) on population health research

BRIDGEHEALTH
BRidging Information and Data Generation for Evidence-based Health Policy and Research

- InfAct Joint Action (2018-2021)
  - 40 partners from 28 EU countries: 20 public health or research institutes, 13 ministries, 3 universities and 4 others

➔ Providing proof of concept by piloting RI elements

INFACT
Joint Action on Health Information

Map with InfAct Partners

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November 2020: PHIRI

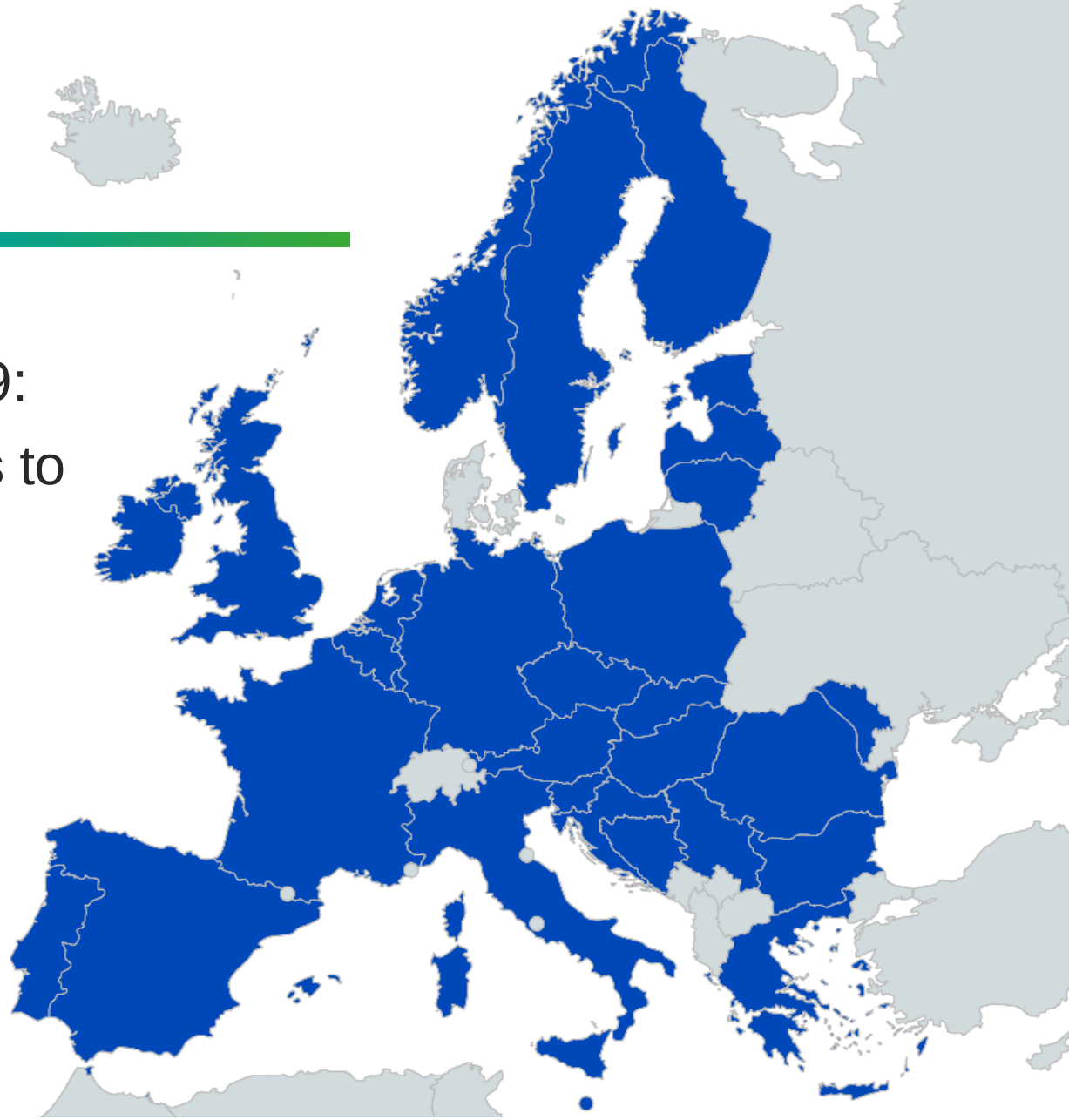
The Population Health Information Research Infrastructure for COVID-19:

- a **European mechanism**, that aims to
- facilitate and support **data-driven population health research**
- and **exchange of best practices**
- to support **decision making**

DG RTD €5m

3 years

Coordinator: Sciensano



Map of PHIRI Partners

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Unique collaborations

PHIRI is a strong network of 41 partners in 30 European countries

- 27 National Institute of Public Health or Research or Disease Control
- 7 Universities
- 7 Ministries of Health

COVID: Need for a rapid exchange of information across borders: policy and research questions

Rapid **E**xchange **F**orum (REF)

- The Rapid Exchange Forum is a **structured platform for regular quick exchange of fellow countries, policy advisors, commission services and researchers** in the joint efforts to manage the COVID-19 pandemic

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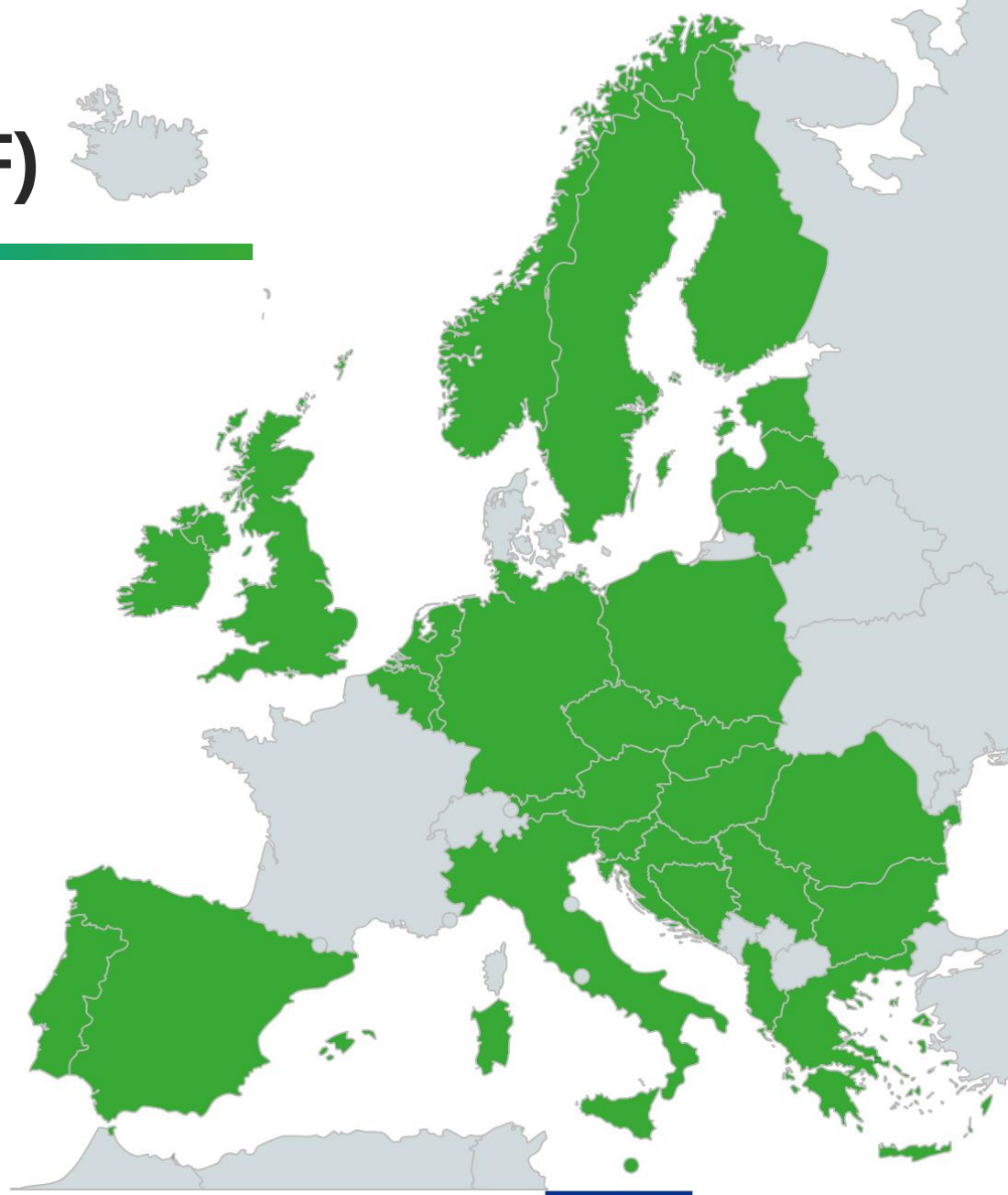
Rapid Exchange Forum (REF)

28 Participating countries

34 Rapid Exchange meetings

5 Special editions and webinars

85+ Questions answered



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Rapid Exchange Forum (REF)

Certificates
vaccination
recovery

Booster doses

Mental health
of general population
of healthcare workers

Variants of interest
Variants of concern

Testing school children

Long COVID

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Rapid Exchange Forum (REF)

3 examples:

1. Counting of COVID-19 deaths (discussed in April 2020)
   - Huge differences between European countries (suspected cases, postive cases, deaths in nursing homes)
   - Impact on policies and data comparability

2. Vaccination (discussed May 2021)
   - Different rules for recovery certificates, travel certificates (green passes)
   - Differences in use for travel versus local purposes

3. Long term pandemic monitoring and surveillance (February 2022)
   - State of emergency and/or similar existing temporary legal instrument for an epidemic or pandemic state invoked during the outbreak of COVID-19
   - State-of emergency or emergency legislation prolonged in many countries in absence of long term strategies

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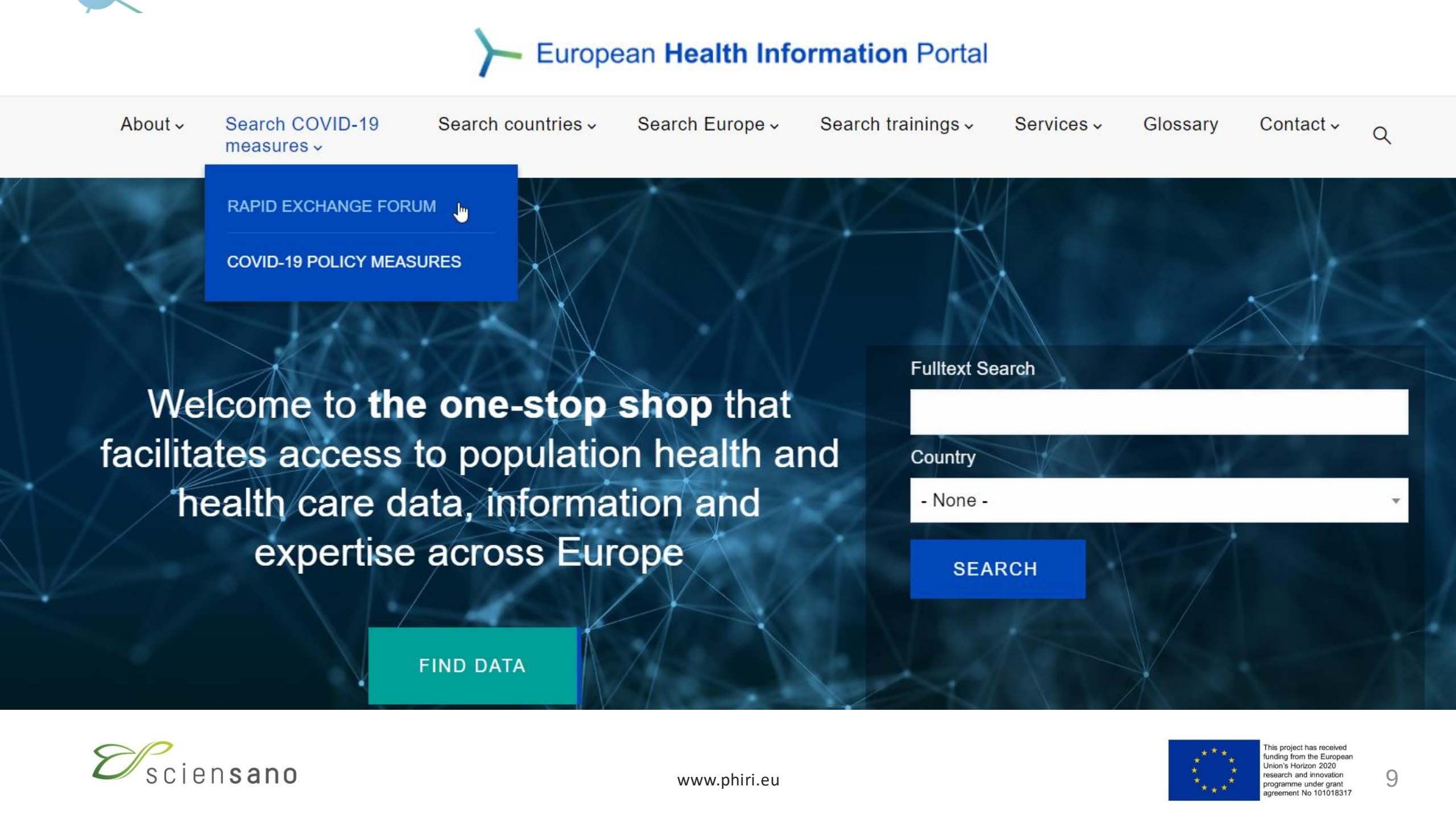

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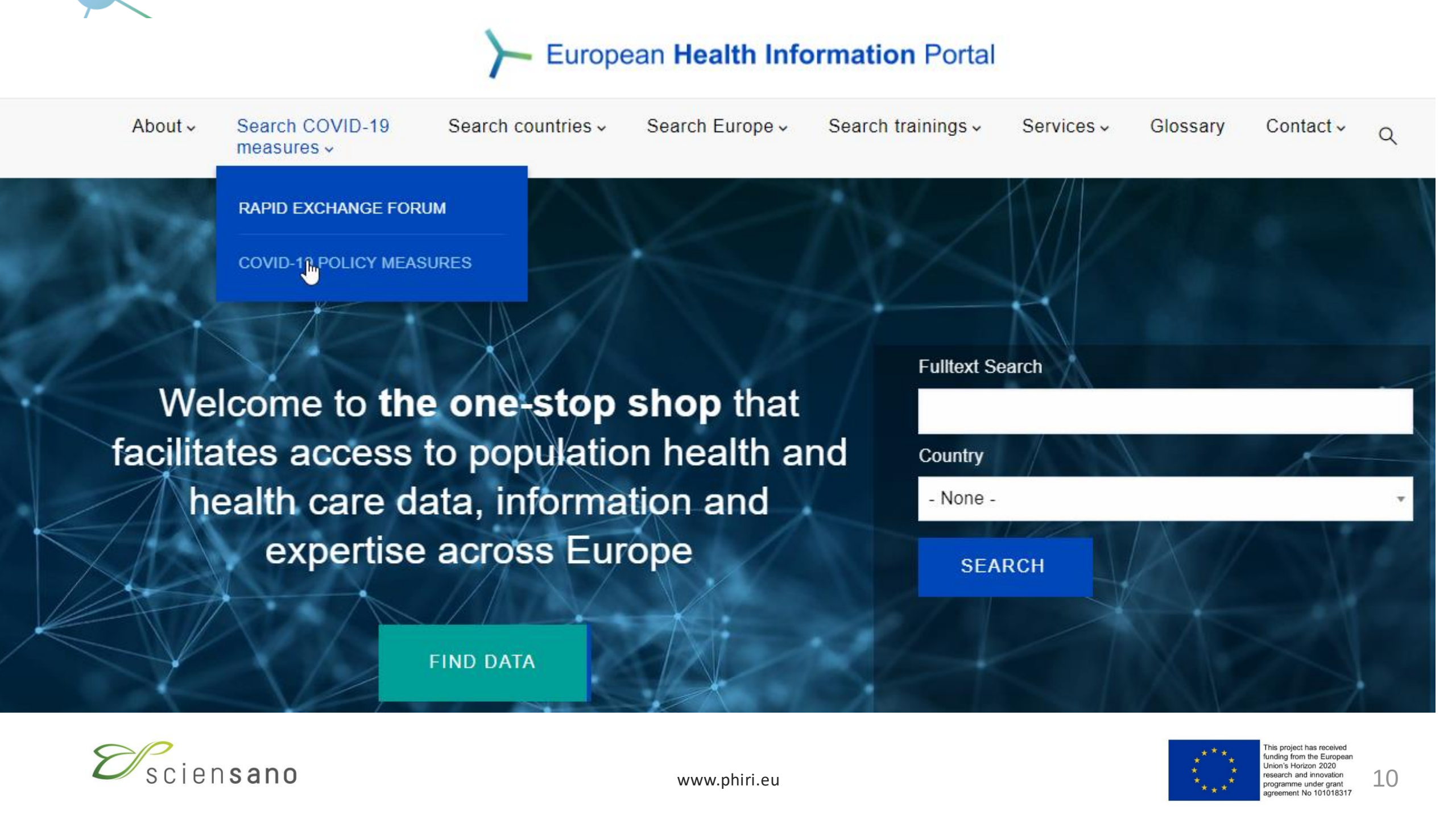

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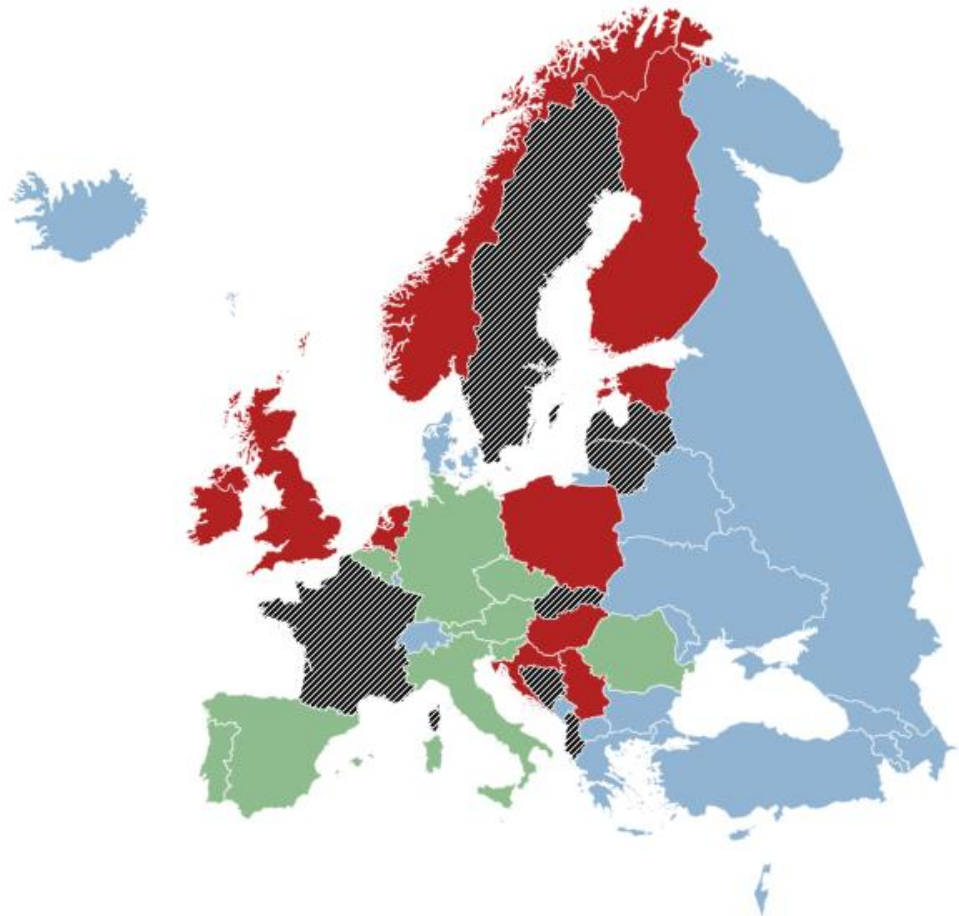
countries with policy measures available

countries without policy measures available

Choose a Country

- or -

Measures for public transport



POLICY MEASURES FOR COVID-19 MAP LEGEND

policy measures applied in the country

policy measures not applied in the country

other, policy measures are further specified

data for this policy measure are missing

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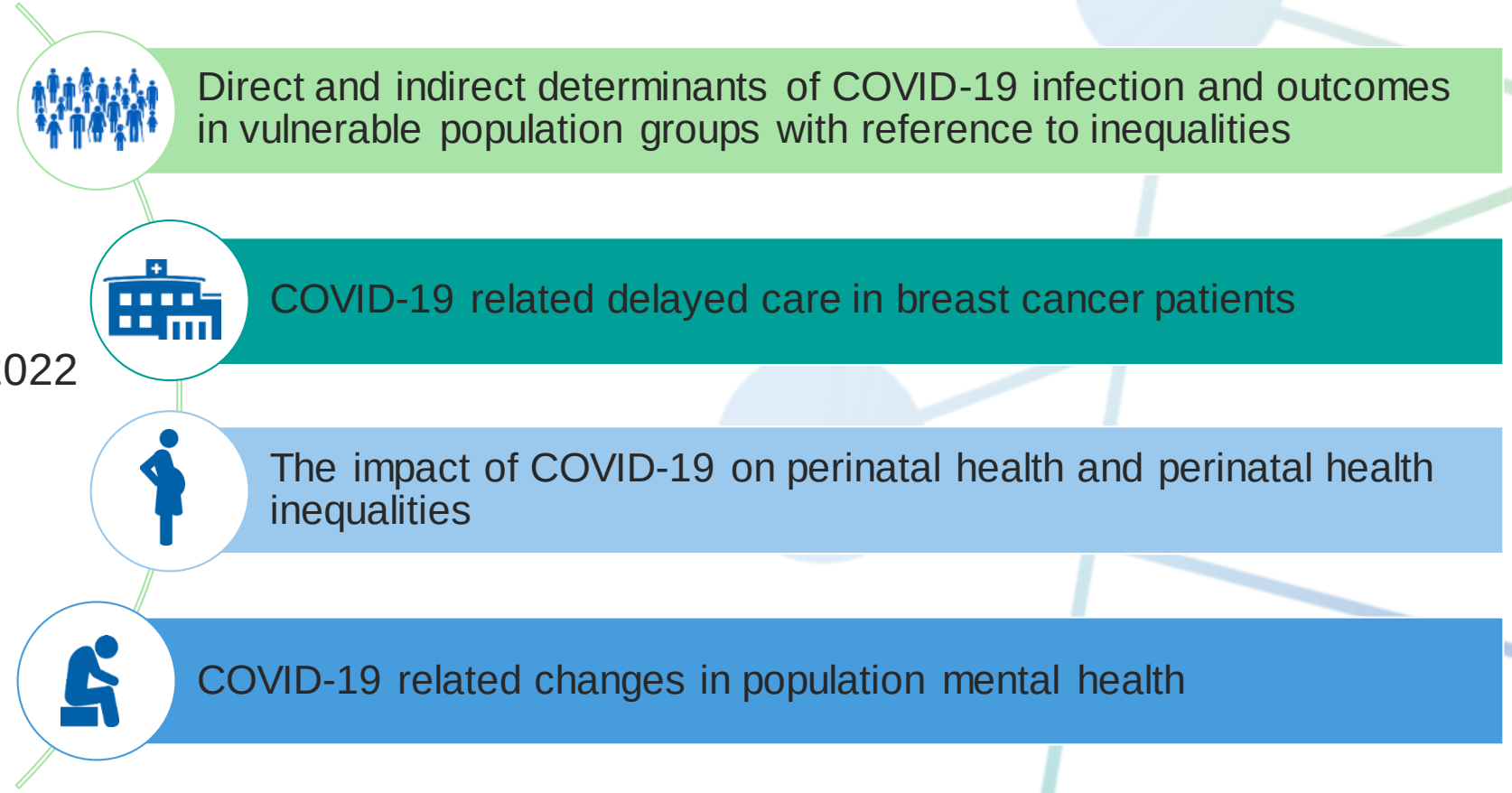
Innovative solutions

4 [Use cases](#)
First results: Q2 2022



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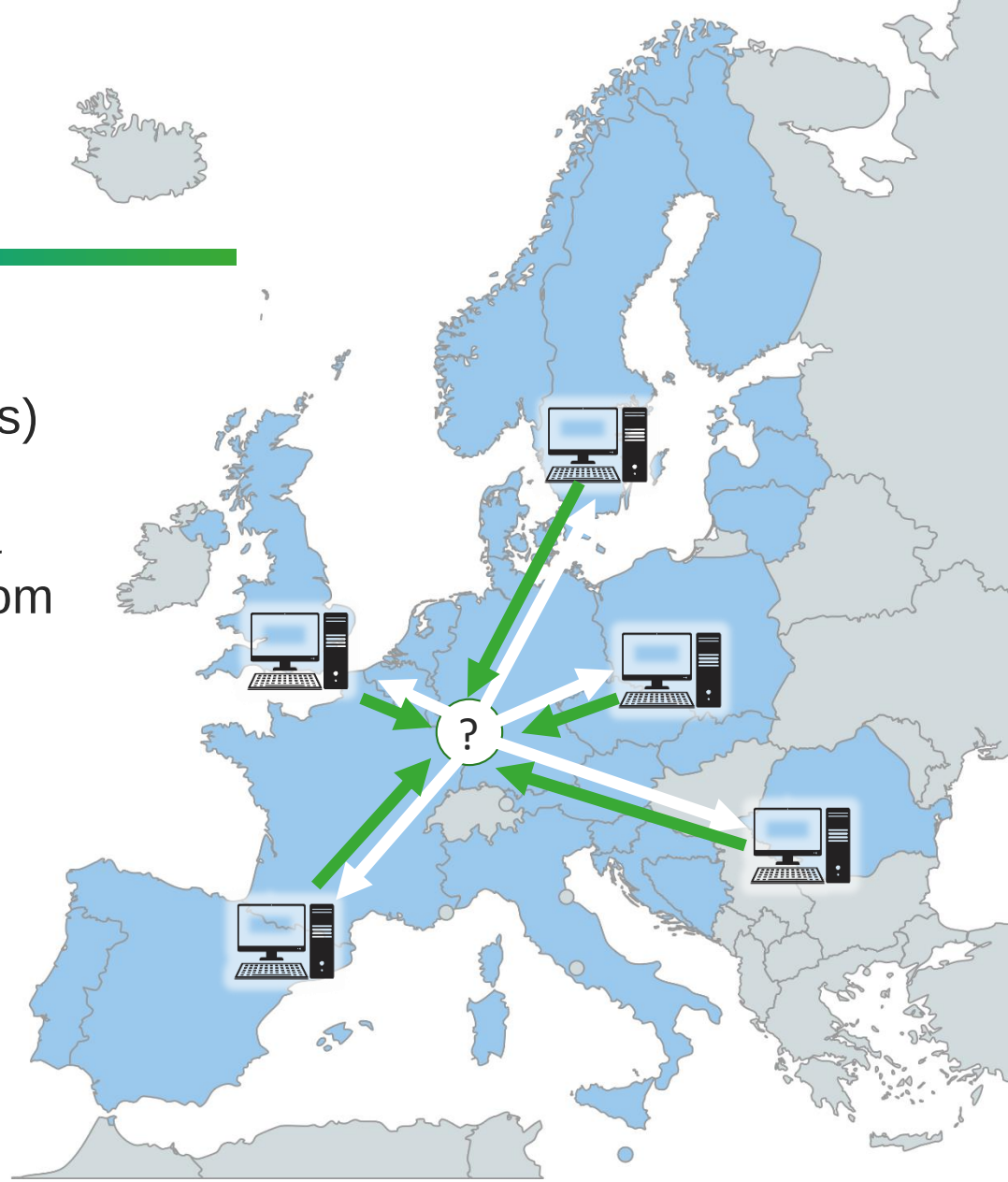
Federated solution

Data reuse and data sharing hindrances (national legislation, GDPR, cultural issues, technical barriers)

Pilot activities for the benefits and added value of a research infrastructure by bringing together data from different European countries



Scripts

Aggregated results

Use Case A - https://doi.org/10.5281/zenodo.5148014
Use Case B - https://doi.org/10.5281/zenodo.5148022
Use Case C - https://doi.org/10.5281/zenodo.5148032
Use Case D - https://doi.org/10.5281/zenodo.5148040

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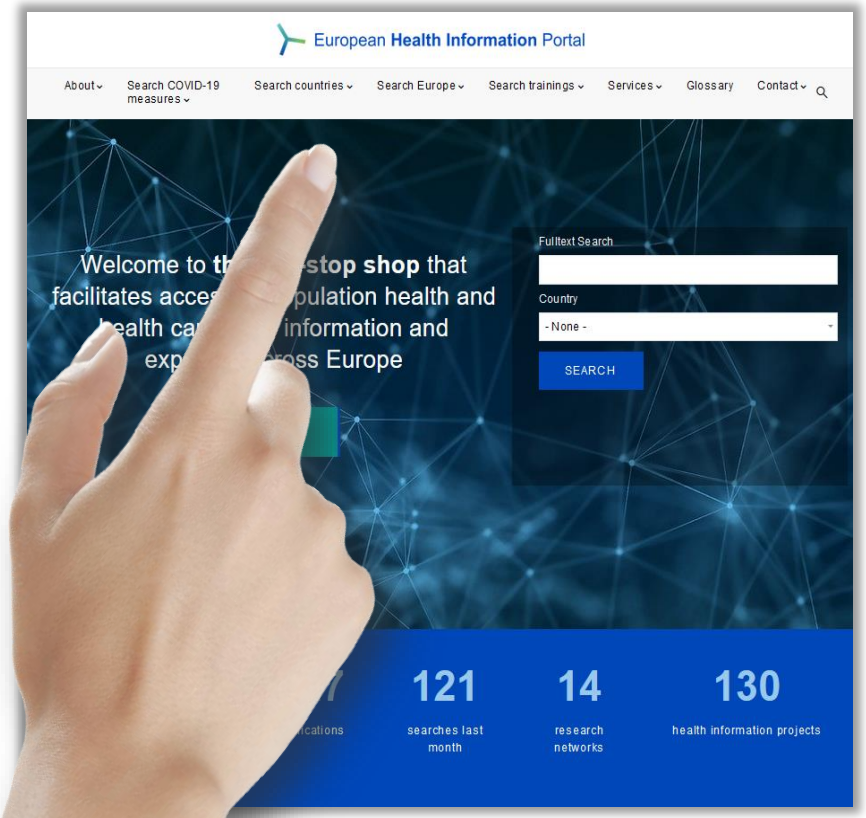
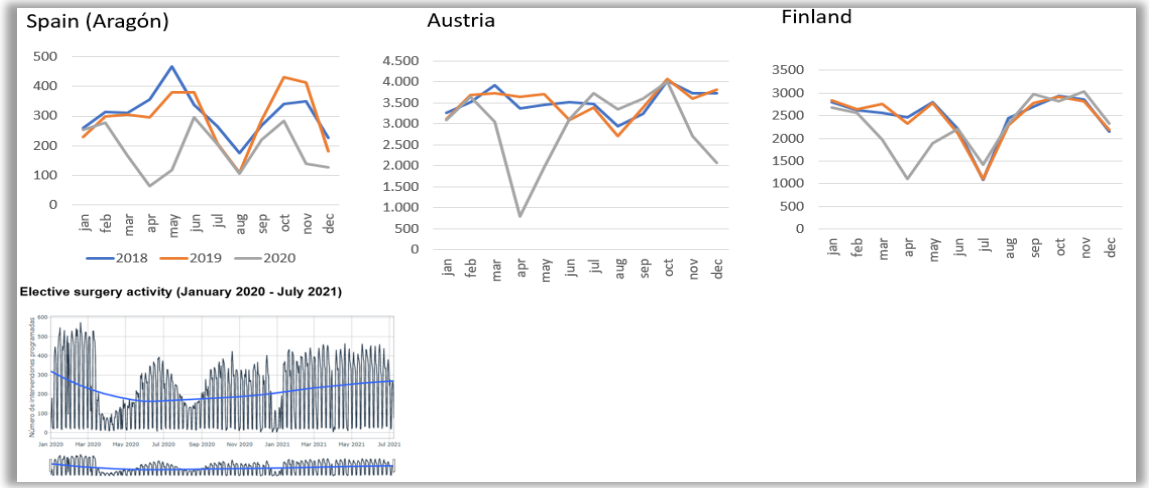
Federated solution



- In **over 20 PHIRI data hubs**, data is mobilized and ready to be analyzed in a distributed manner
- In **12 data hubs**, the PHIRI-app Docker is already deployed and tested
- First result are expected in **May 2022** and will be published on the **Health Information Portal**



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Federated solution

- Demonstrate how a broad variety of population health data can be pooled and/or reused in a distributed way across Europe
- Advantage of not moving data out of the silos and thus protecting privacy. Only non-personal aggregated data were produced and exchanged across borders
- Capacity building in the PHIRI data hubs is needed: PHIRI developers forum

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Future European perspectives

European Health Data Space 2 pilot project:

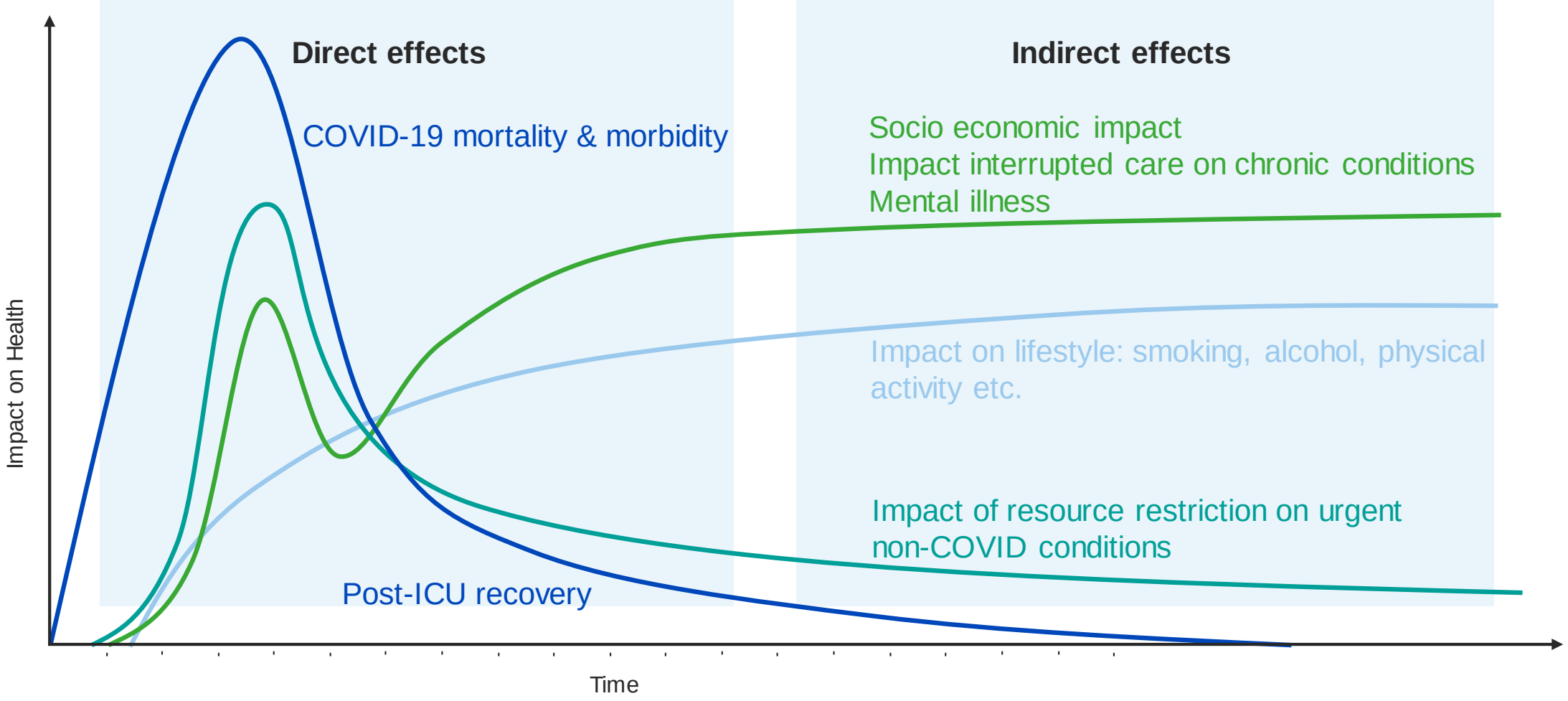
to investigate the **technical tools** and set up the **metadata standards** which can allow researchers to

- query the metadata catalogs of all the nodes in the data space, in every health domain
- to request selected data via a single common form
- to analyze data across national nodes

→ Building the first effective and operational version of the European Health Data Space

How ready are countries to join the European Health Data Space? Keep an eye on the **Joint Action Towards the European Health Data Space – TEHDAS:** www.TEHDAS.eu

(In)direct impact of COVID-19 on population health



PHIRI

Population Health Information Research Infrastructure

Thank you!

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