



DIPoH

Distributed Infrastructure
on **Population Health**

Paving the way for the Distributed Infrastructure on Population Health (DIPoH)

3 June 2021

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BRIDGE Health

BRIdging Information and Data Generation for
Evidence-based Health policy and research



BRIDGE Health (2015-2017)

- Identifying health data needs for researchers and policy makers
- Investigating options on how to best respond to the needs → most feasible short term solution = Research Infrastructure
- Conceptualise the Distributed research Infrastructure on Population Health (DIPoH)

<https://www.bridge-health.eu/>

2

Aim and objectives

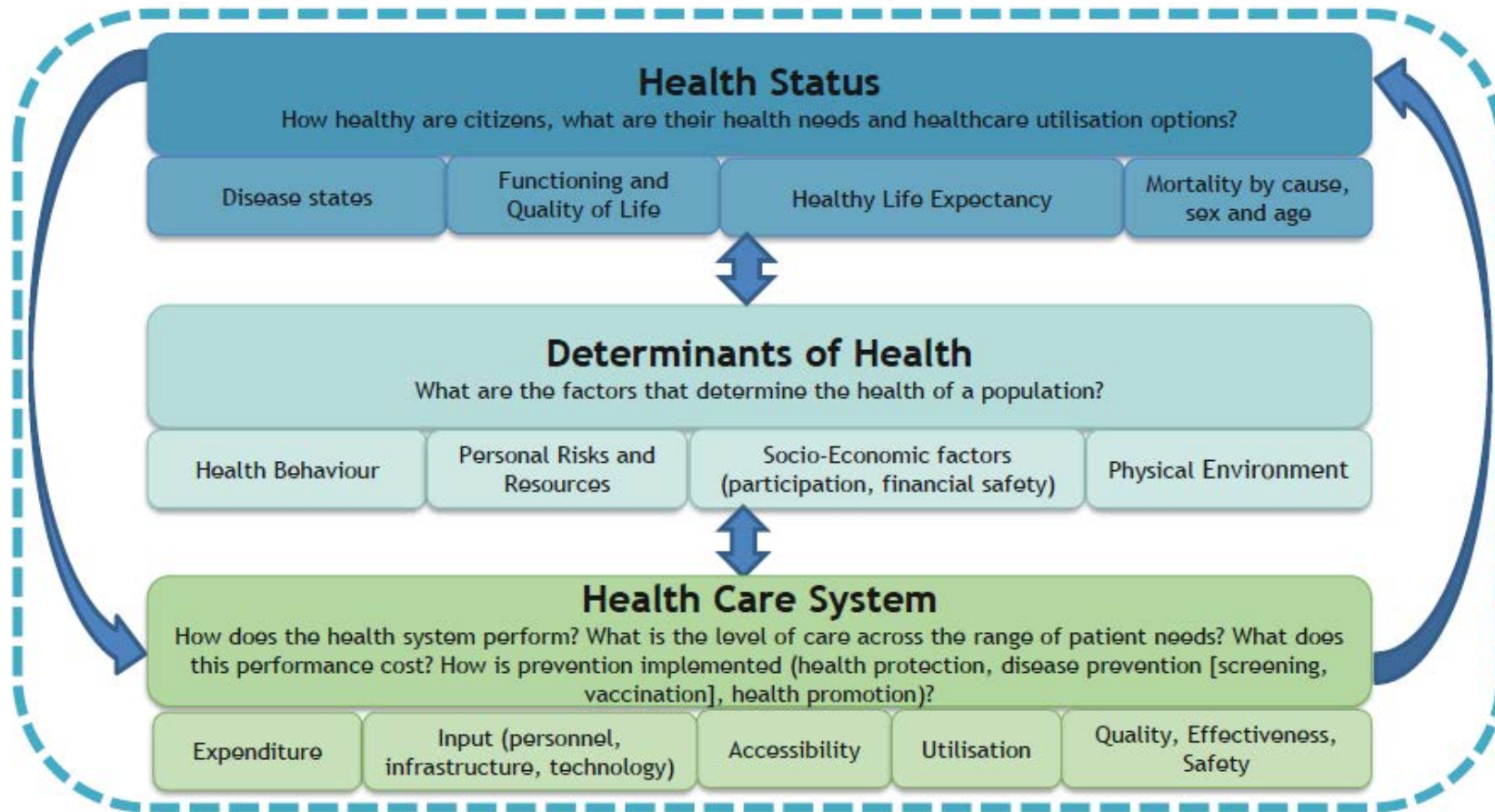
DIPoH offers a solid European Infrastructure for population health information, facilitating open, interconnected and data-oriented population health research across Europe.

DIPoH objectives:

- To improve collaboration and exchange of good practices between European countries regarding collection, evaluation, accessibility and reuse of health data, and to promote sharing of expertise.
- To provide better integration and strengthening of research networks and population health data sources in Europe, through metadata catalogues and trainings.

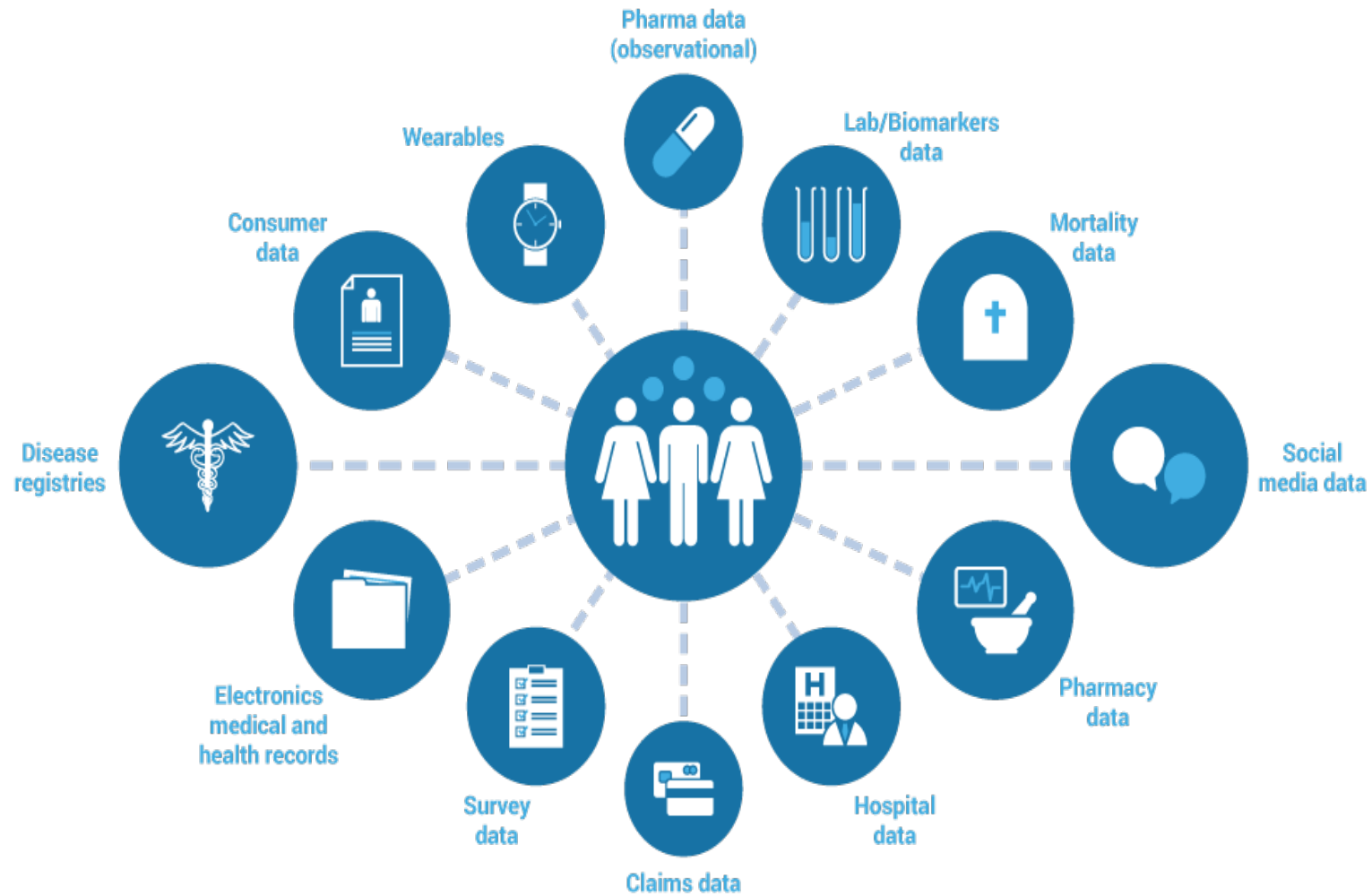
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The population health framework



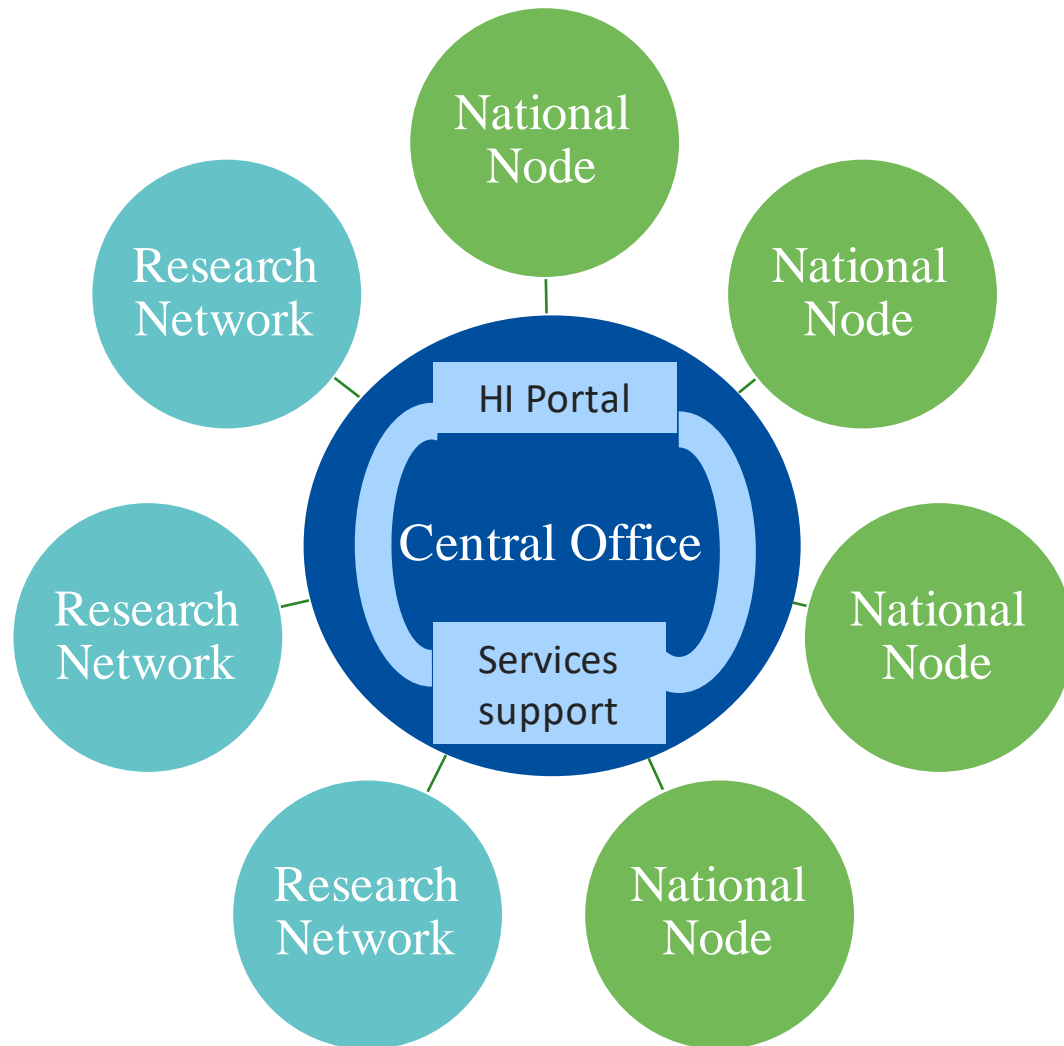
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Data sources types



5

The structure



- **National Nodes (NN)** units within MSs representing national network,
- **Research Networks (RN)** and their research communities,
- A **Central office** and governance structure,
- A **Health Information (HI) portal** as one-stop-shop to data, services and tools on population health



Services

1

One-stop shop for EU health information research

Find the data, expert, network, guidelines or tool you are looking for

Innovative research in health information

Be the first to know and use the latest developments and methodologies

2

3

Capacity building in health information

Get expert support and training on collection, analysis, reporting and transformation

Knowledge translation research for evidence based decision-making

Know your (health) policies are based on proper evidence

4



InfAct

The Joint Action on Health Information

1

Activities



**BUILDING A
FEDERATED
RESEARCH
INFRASTRUCTURE
WITH USE CASES**



**HEALTH
INFORMATION
PORTAL**



**HEALTH
INFORMATION
TOOLS AND
GUIDELINES**



**EUROPEAN
SCHOOL ON
HEALTH
INFORMATION**

- ❖ Stroke care
- ❖ Indicator on resilience
- ❖ Cost of dementia care

- ❖ Routine population health data sources, partners and access
- ❖ Metadata structure

- ❖ ECHI shortlist development
- ❖ National health reporting
- ❖ Machine learning
- ❖ Guidelines on prioritization
- ❖ Toolkit burden of disease
- ❖ Interoperability of health data instruments

- ❖ GDPR
- ❖ Health examination survey
- ❖ Burden of disease
- ❖ Health information system assessment

2

www. Health Information Portal .eu



About ▾ Services ▾ Research networks National nodes Health information in Europe ▾ Glossary Media Contact ▾

Welcome to the **one-stop shop** that facilitates access to population health and health care data, information and expertise across Europe

FIND DATA

187

data sources

237

publications

13

research networks

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health information projects



INFORMATION ON NATIONAL
NODES AND RESEARCH
NETWORKS



HEALTH INFORMATION
PROJECTS WITHIN COUNTRIES
AND ACROSS EUROPE



DATA SOURCES AND DATA
PROVIDERS OR DATA
MANAGERS



3 Other achievements InfAct

1. Development of the business case and roadmap for implementation of DIPoH including governance and management structures, services, and cost models
2. Supporting the setup of 19 National Nodes in partner countries, and connecting with EU health information 8 Research Networks
3. ESFRI Roadmap 2021 Application submitted by September 2020 with MS/AC support expressed through:
 - 16 Memorandum of Understandings
 - 11 letters of political support
 - 3 expressions of financial commitment
 - 8 letters of intent from Research Networks.



PHIRI

Population Health Information
Research Infrastructure

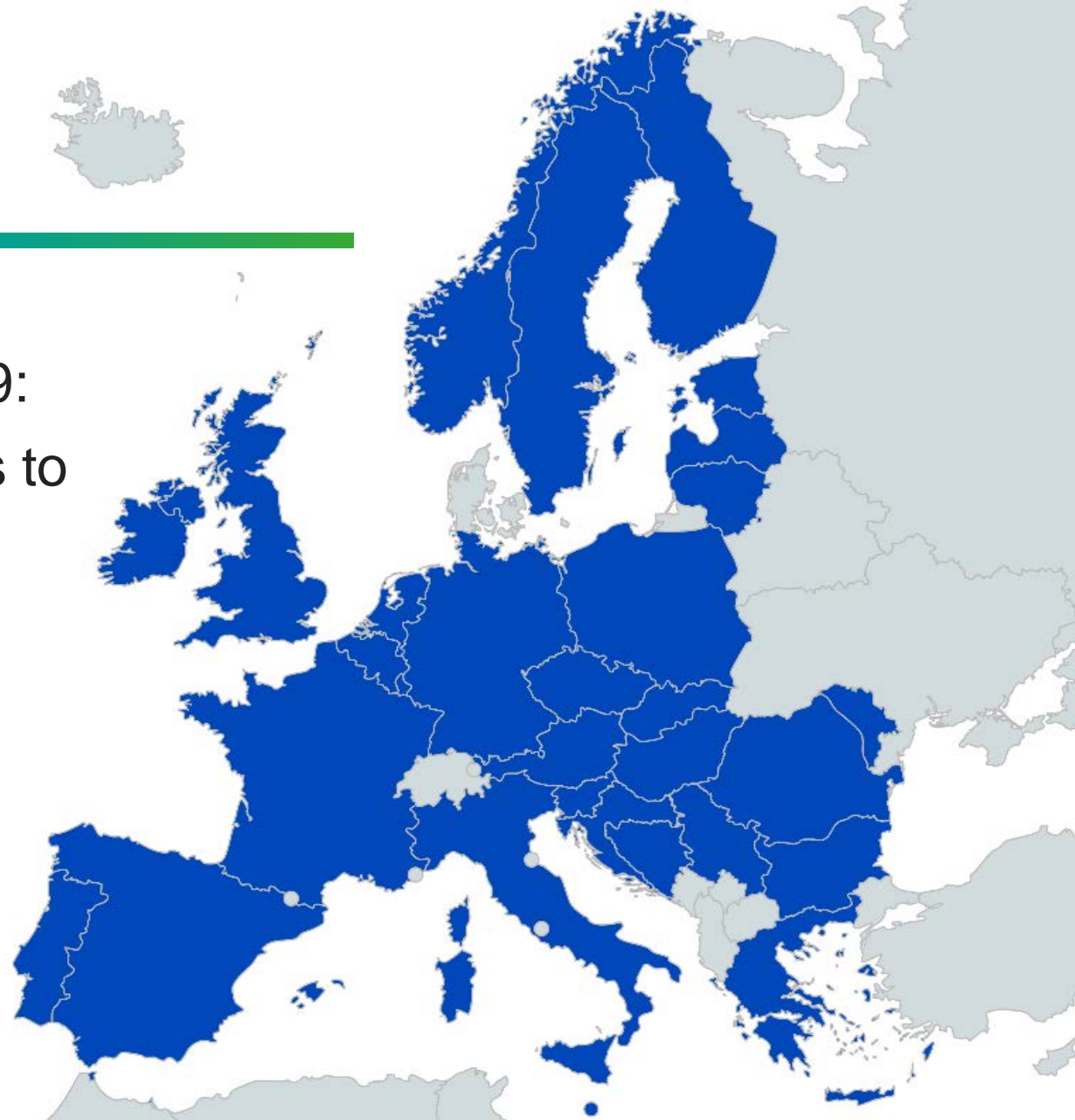


What is PHIRI?

The Population Health Information Research Infrastructure for COVID-19:

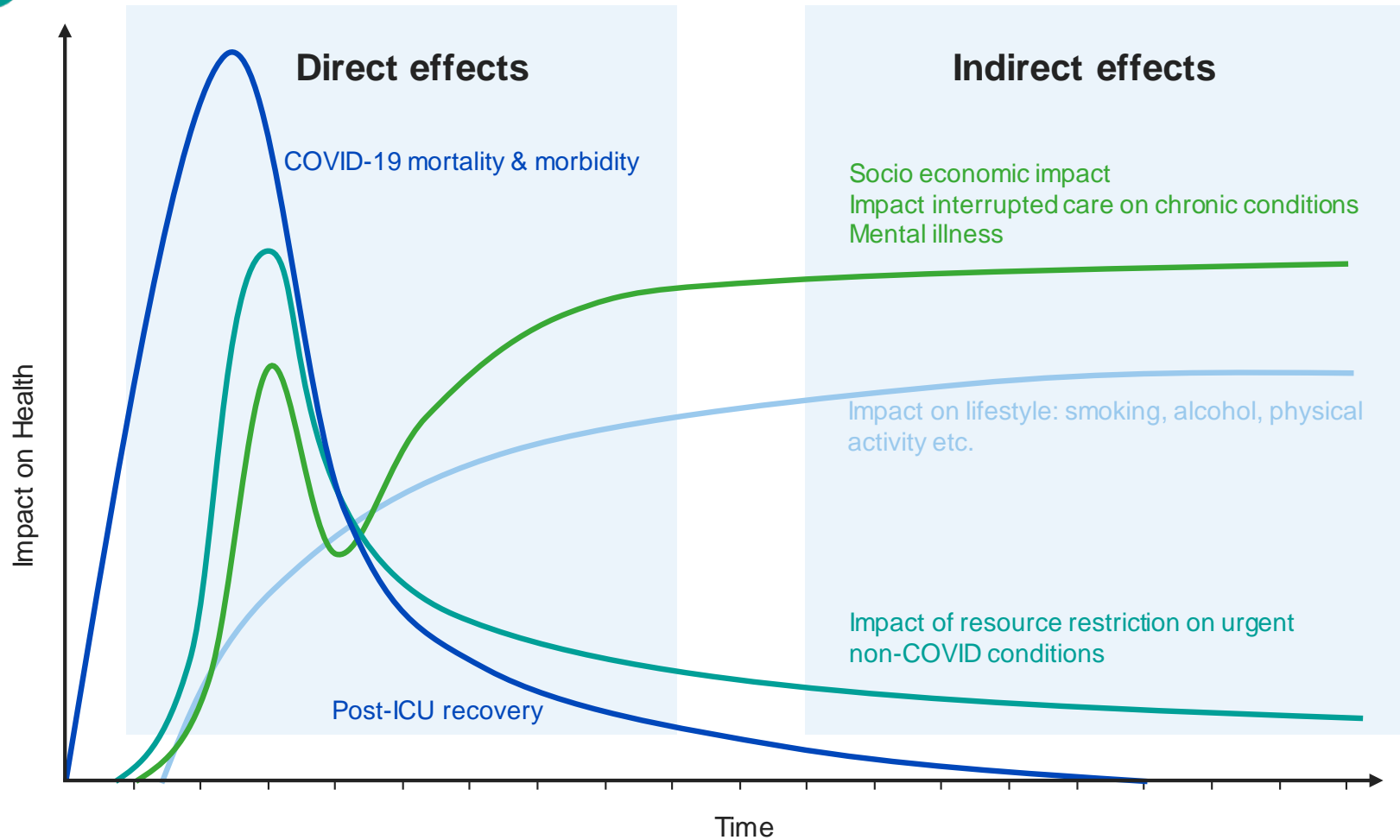
- a **European mechanism**, that aims to
- facilitate and support **data-driven population health research**
- and **exchange of best practices**
- to support **decision making**

➔ Practical roll-out of the Distributed Infrastructure on Population Health (DIPoH)



Map of PHIRI Partners

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



www.phiri.eu



PHIRI

Research use cases
Research methodologies

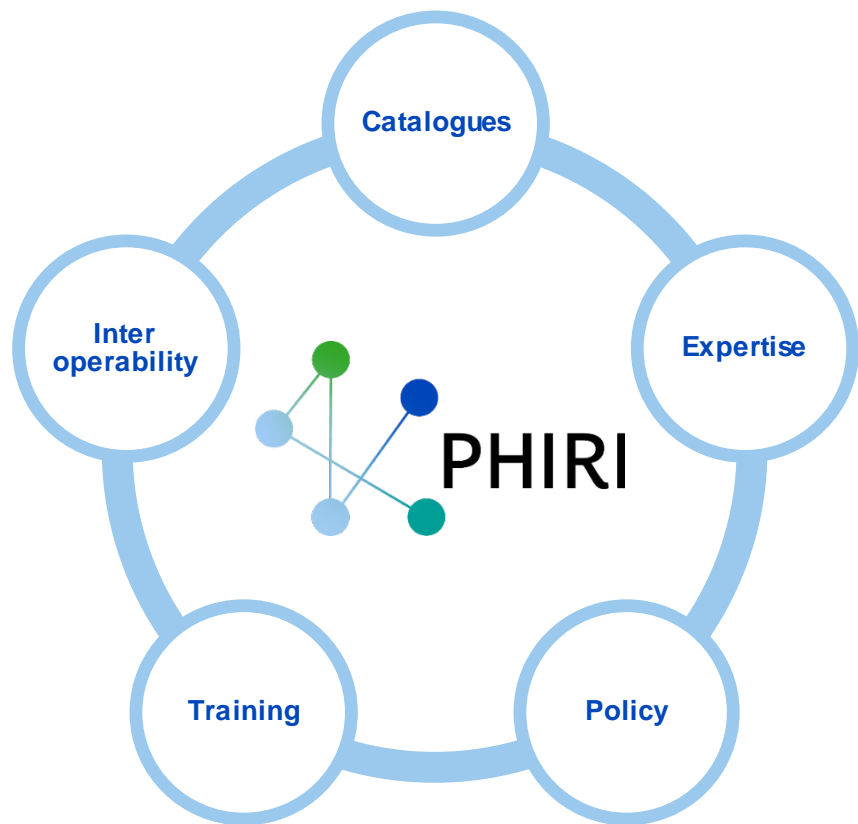
Health information Portal
Federated Research Infrastructure

Rapid Exchange Forum
Outreach & Engagement

Foresight: Modeling & Scenarios

Stakeholder involvement
Capacity building
Policy linkage

PHIRI for COVID-19



Objectives:

1. To provide a **Health Information portal** for COVID-19 with FAIR catalogues on health and healthcare data for structured information exchange across European countries. To link different data sources and to use Pan-European data in a GDPR compliant, federated way.
2. To provide structured exchange between countries on COVID-19 **best practices and expertise**. It allows researchers to provide relevant and evidence based information ready for use in research, and decision-making processes.
3. To promote **interoperability** and tackle health information inequalities. PHIRI supports researchers and public health bodies to research queries related to COVID-19 and provides **capacity building** for management of COVID-19 relevant population health and healthcare data.

5

Activities



**BUILDING A
FEDERATED
RESEARCH
INFRASTRUCTURE
WITH USE CASES**

- ❖ Vulnerable populations
- ❖ Perinatal health
- ❖ Delayed cancer care
- ❖ Mental health



**HEALTH
INFORMATION
PORTAL**

- ❖ Data sources and publications
- ❖ International guidelines, initiatives and projects
- ❖ Training material and courses
- ❖ Ethical and legal tools
- ❖ Experts on health topics



**HEALTH
INFORMATION
TOOLS AND
GUIDELINES**

- ❖ Bi-weekly COVID-19 expertise exchange
- ❖ Research methodologies to assess the impact of Covid-19
- ❖ Foresight: modelling and scenarios

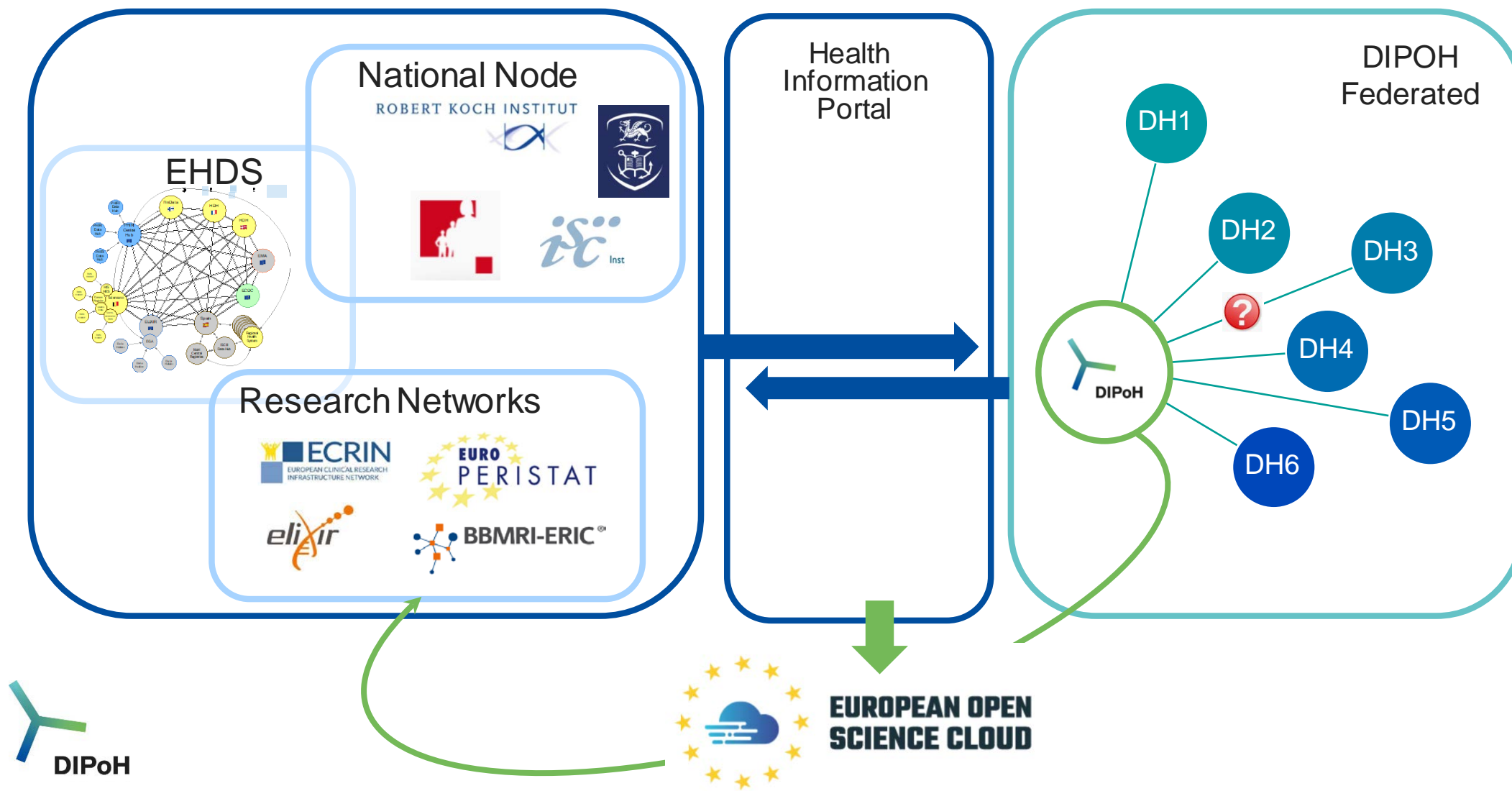


**EUROPEAN
SCHOOL ON
HEALTH
INFORMATION**

- ❖ Foresight methodologies to assess the wider impact of COVID-19
- ❖ Infodemic management training
- ❖ Data hubs developer training
- ❖ Health Information System assessment

Q5

Building the federated infrastructure





DIPoH

Distributed Infrastructure
on **Population Health**



Thank you!

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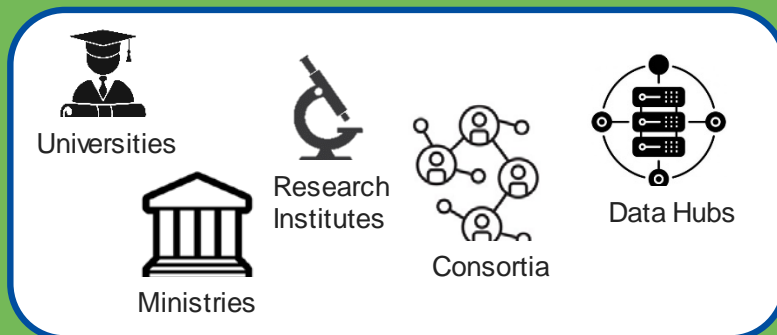
INTERNATIONAL ORGANIZATIONS AND ASSOCIATIONS



EUROPEAN RESEARCH INFRASTRUCTURES



NATIONAL STAKEHOLDERS

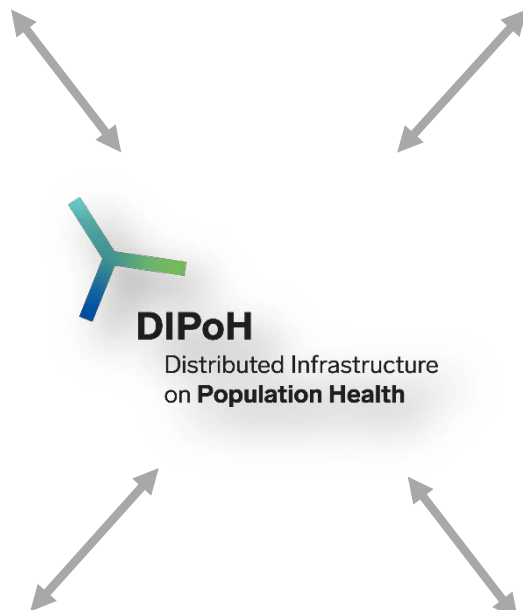


INTERNATIONAL INITIATIVES AND RESEARCH NETWORKS



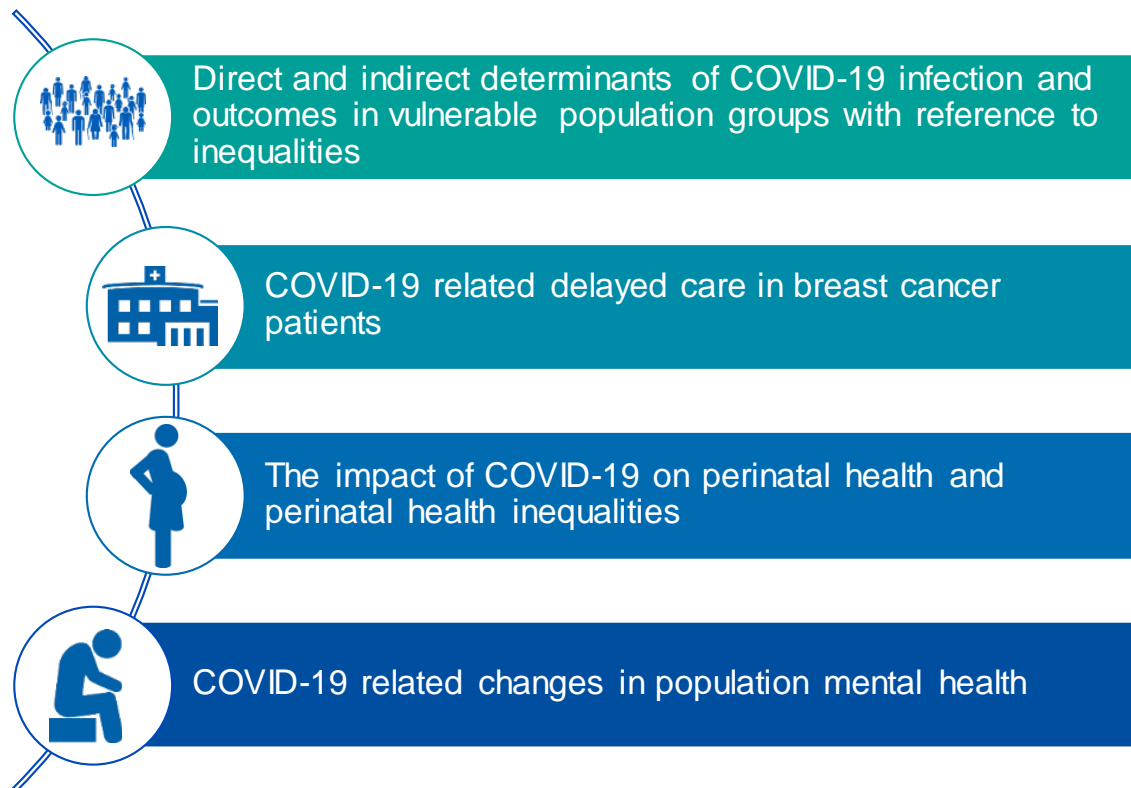
DIPoH

Distributed Infrastructure
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Q3

Federated infrastructure



Data hubs

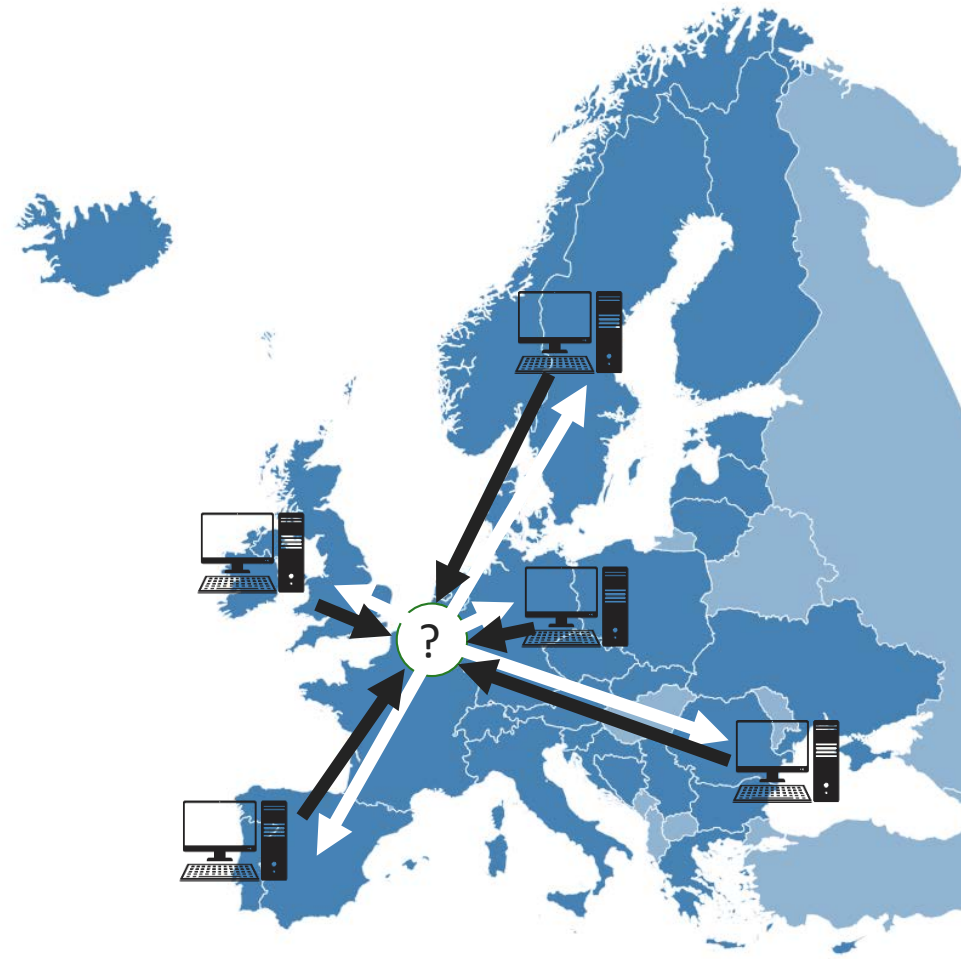
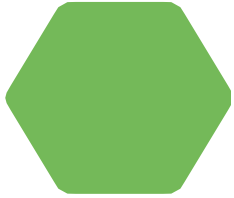
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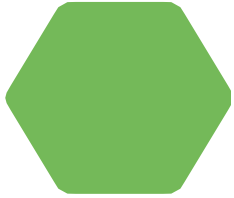
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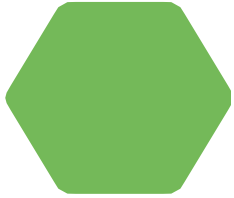
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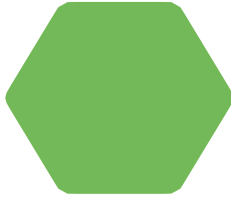
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Q1 BRIDGE Health (2015-2017)

- DIPoH's vision:

A sustainable infrastructure for improving health of populations and care in Europe

- Key elements for long term sustainability
 - Formal commitment
 - Structural financing
 - Embedded in the landscape and across domains
 - Knowledge and expertise centre

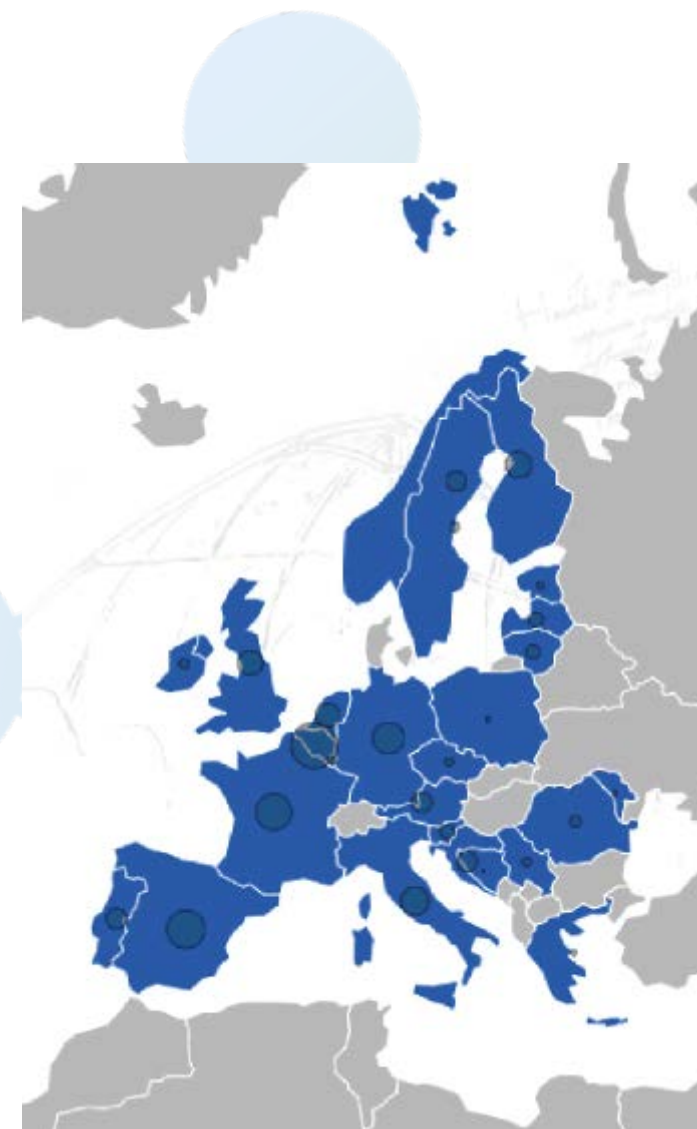


BRIDGE Health (2015-2017)

- Identifying health data needs for researchers and policy makers at EU level
- Investigating options on how to best respond to the needs
→ most feasible short term solution = Research Infrastructure
- Conceptualise the Distributed research Infrastructure on Population Health (DIPoH)

History and composition

- Bottom up approach building on 2 consortiums:
 - [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
 - [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



Map with InfAct Partners

Supporting health information exchange, access and re-use: Sciensano in Europe

- [BRIDGE Health](#) (2015-2017)
 - Identifying health data needs for researchers and policy makers at EU level
 - Investigating options on how to best respond to the needs → most feasible short term solution = Research Infrastructure
 - Conceptualise the Distributed research Infrastructure on Population Health (DIPoH)



DIPoH

- Coordinators InfAct [Joint Action on Health Information](#) (2018-2021)
 - Strengthen and mature DIPoH's concept
 - Providing proof of concept by piloting DIPoH elements

DIPoH: Distributed Infrastructure on Population Health

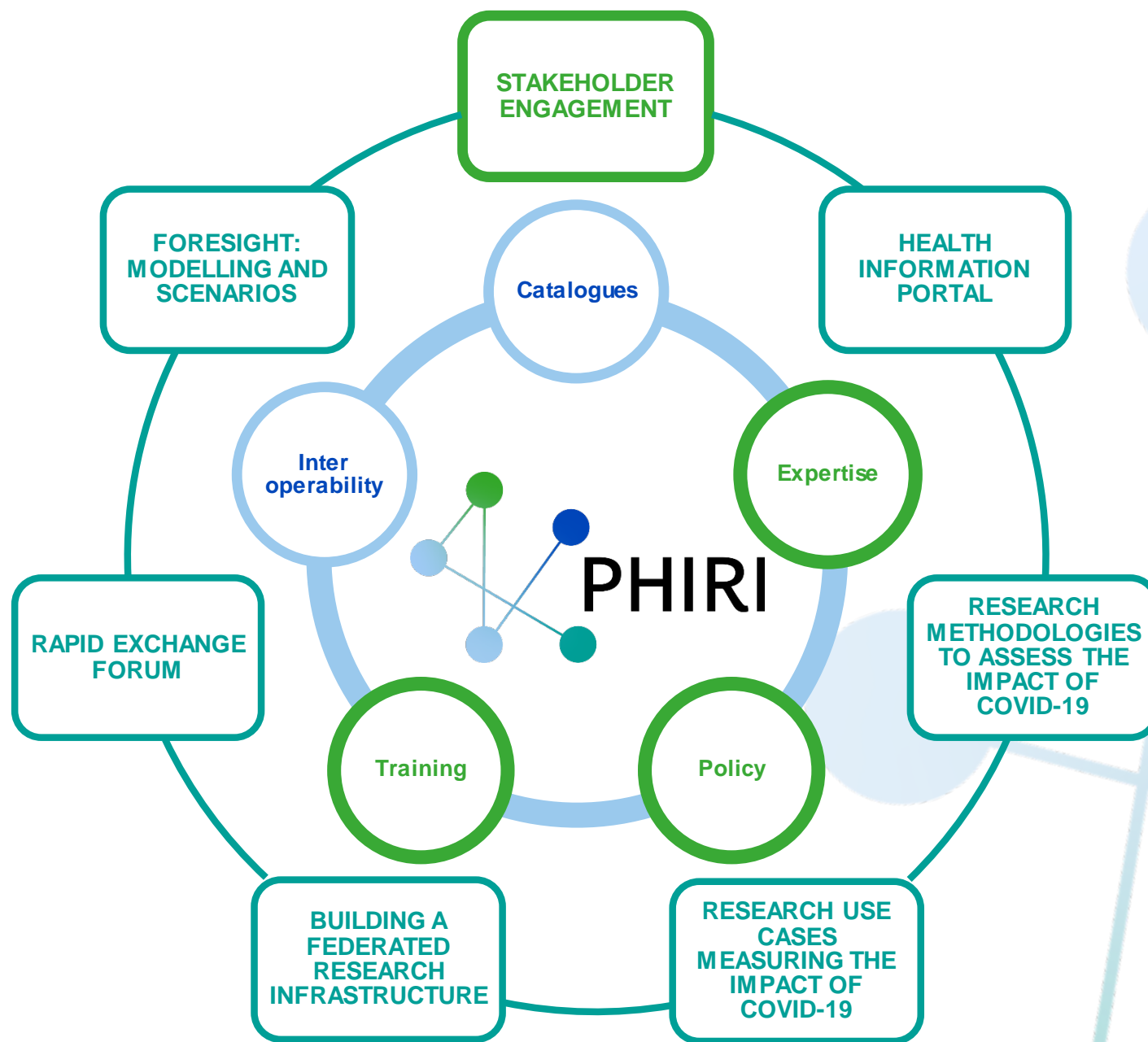
- DIPoH is a product of the Joint Action on Health
- Application to join the European Research Infrastructures landscape through an application to the ESFRI roadmap 2021 is submitted (September 2020)
- DIPoH's success has been brought to implementation through an initiative called PHIRI → a practical rollout of DIPoH
- DIPoH will serve as a cornerstone for the implementation of the future European Health Data Space. The DIPoH consortium is active in TEHDAS and EOSC projects.



DIPoH

Distributed Infrastructure
on **Population Health**

Population Health Information Research Infrastructure (PHIRI) for COVID-19



Outreach and Engagement

Network of Experts & Stakeholders:

- Collaborations with international organizations
- Discussions other European projects
- Synergies with other Research Infrastructures

Communication strategies:

- Meetings/webinars/discussions
- Reports/publications/policy briefs
- Website/social media



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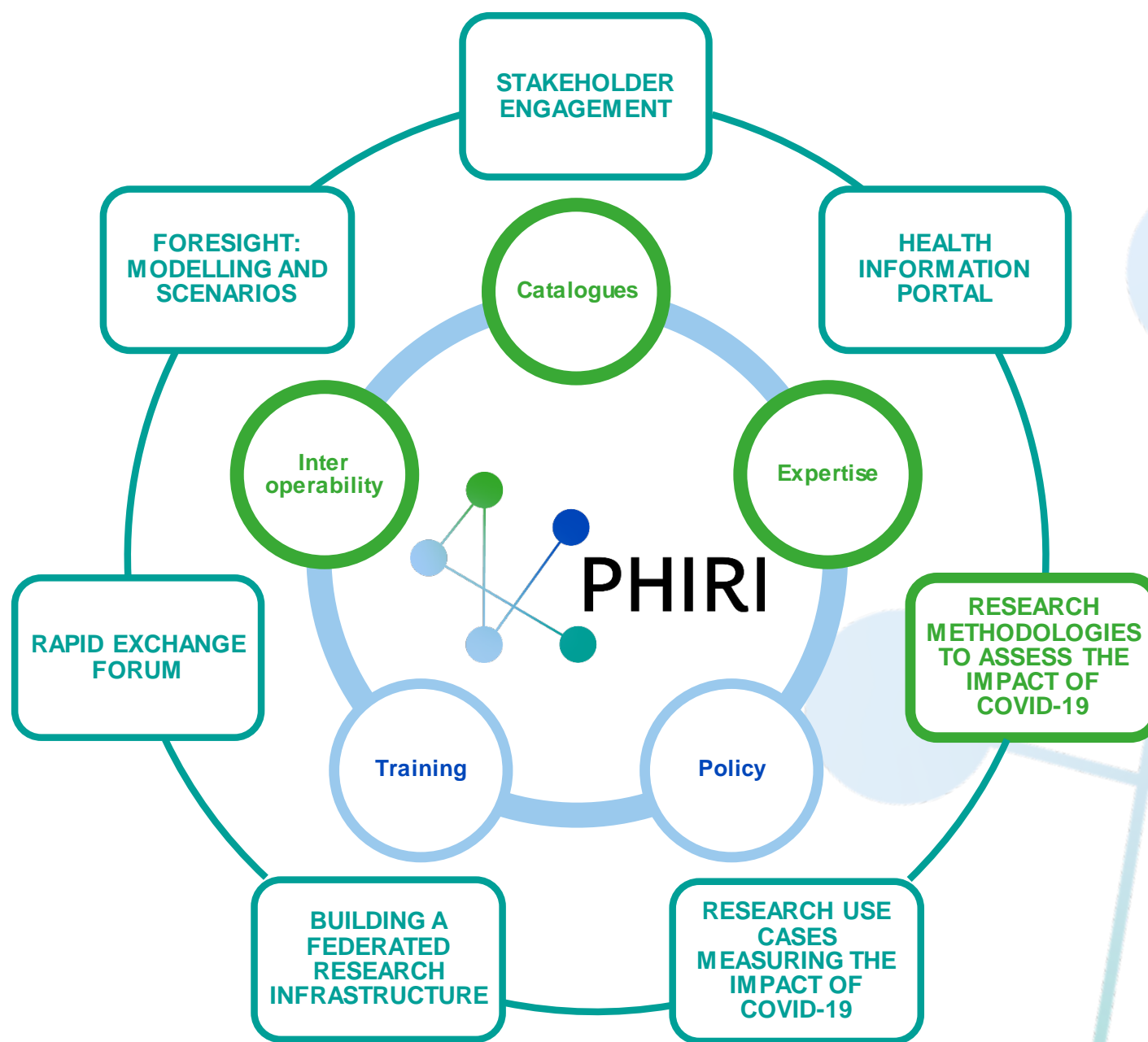
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HEALTH INFORMATION
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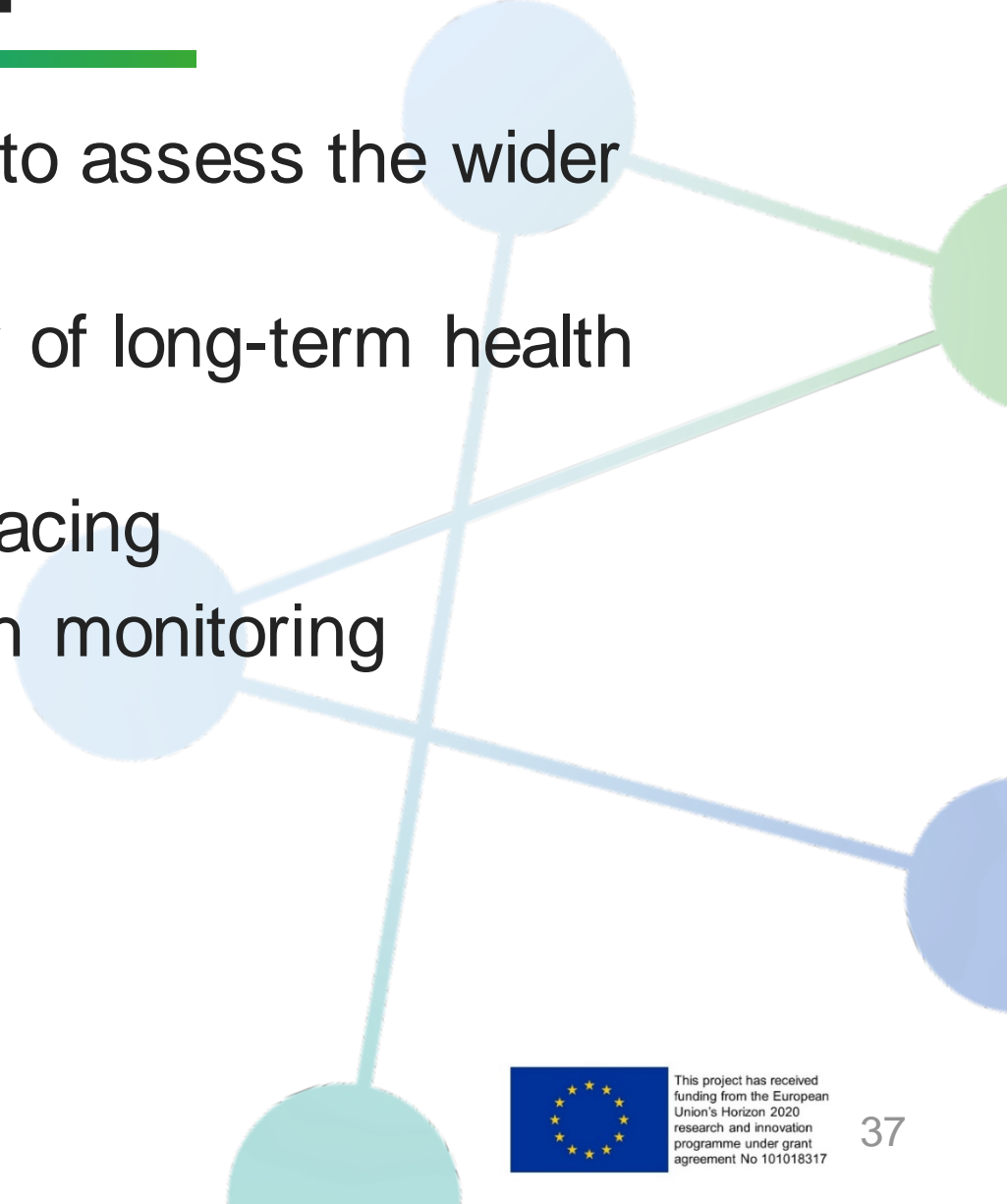


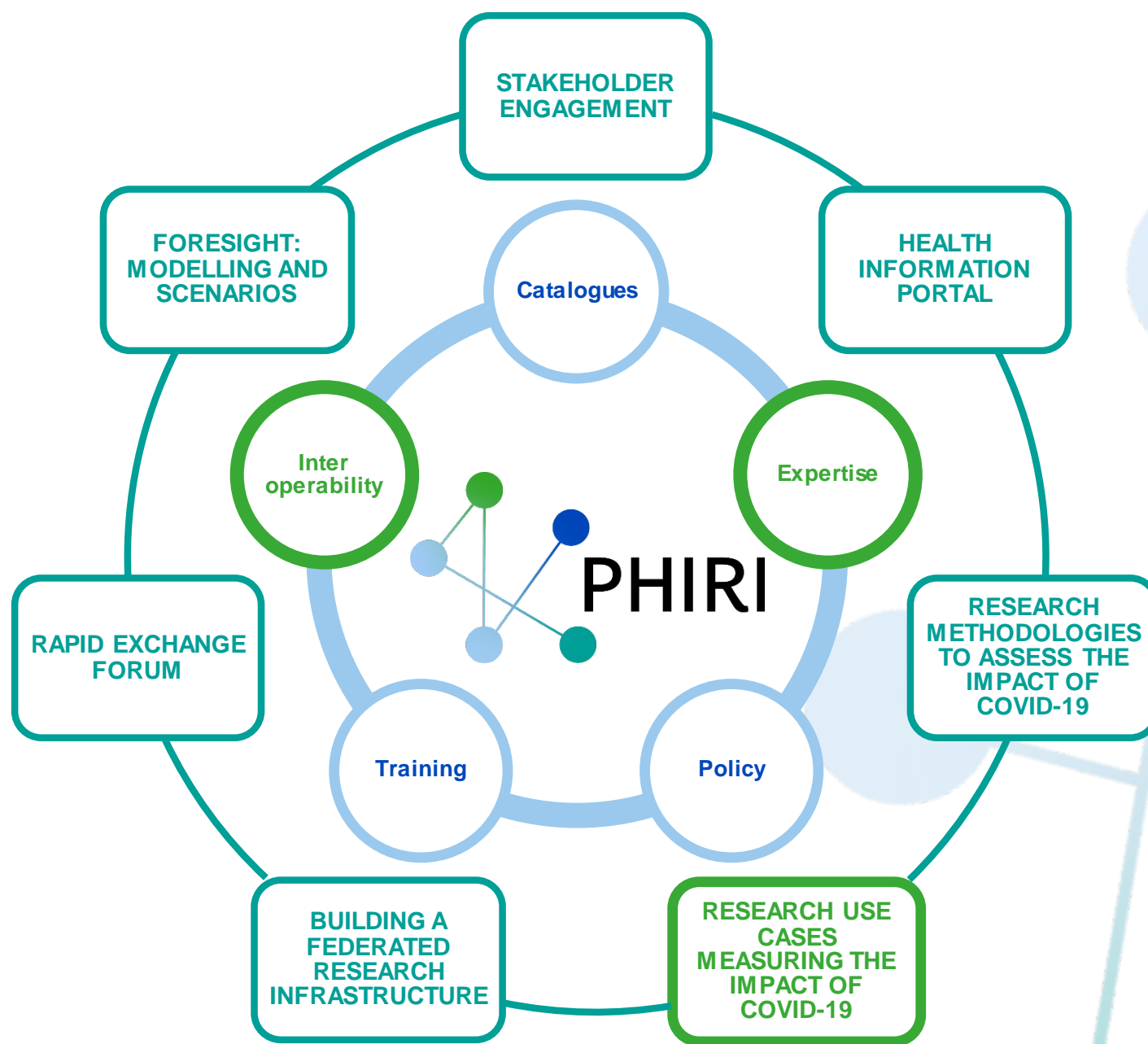
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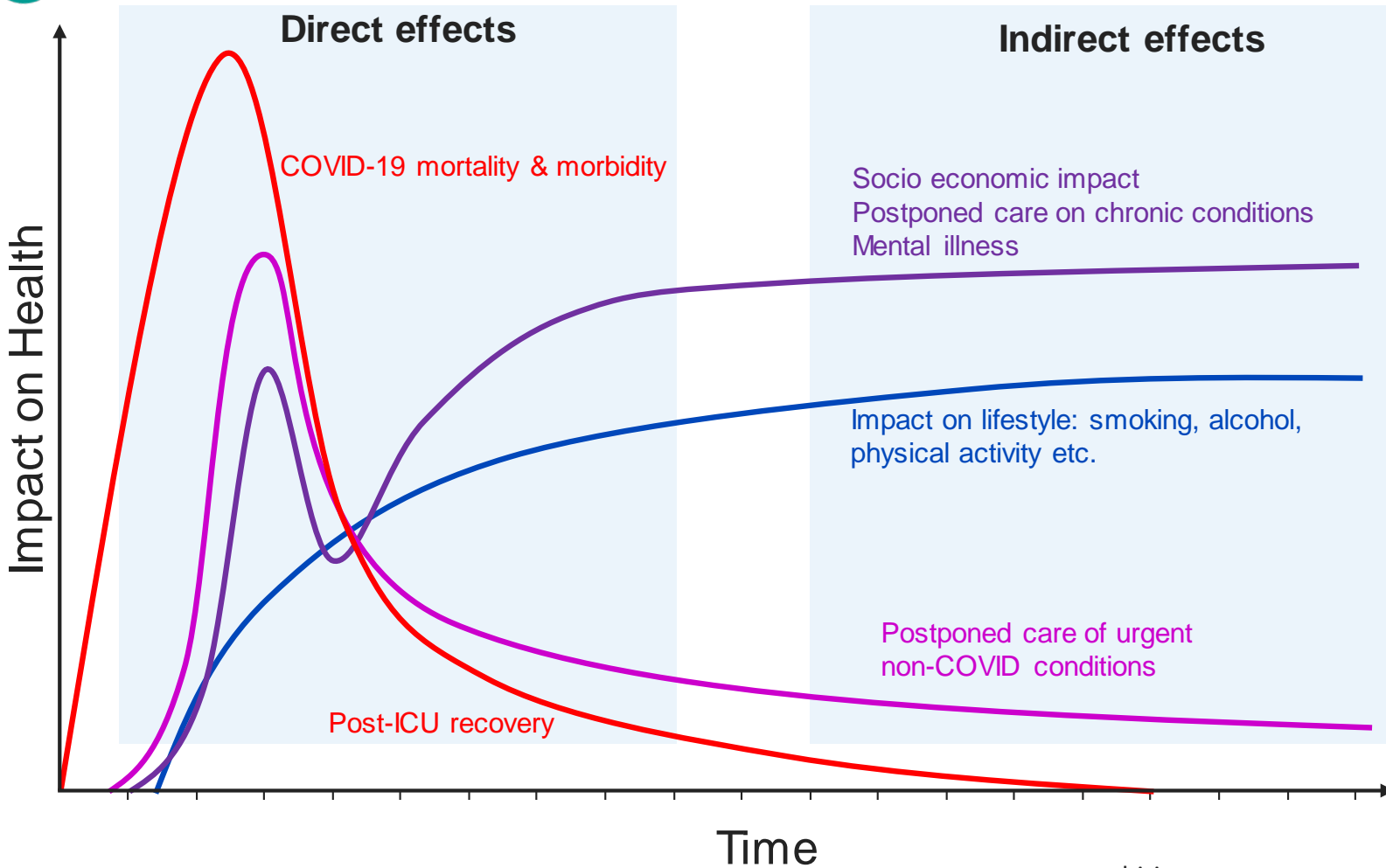


Methodologies to assess impact of COVID-19

- Indicators and methodologies used to assess the wider impact of COVID-19
 - Explore determinants of the severity of long-term health outcomes of SARS-CoV-2
 - Efficacy of digital tools for contact tracing
 - Innovative tools for COVID-19 health monitoring
- 



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



What are the differences in health care utilization and mortality due to COVID-19 in vulnerable populations?



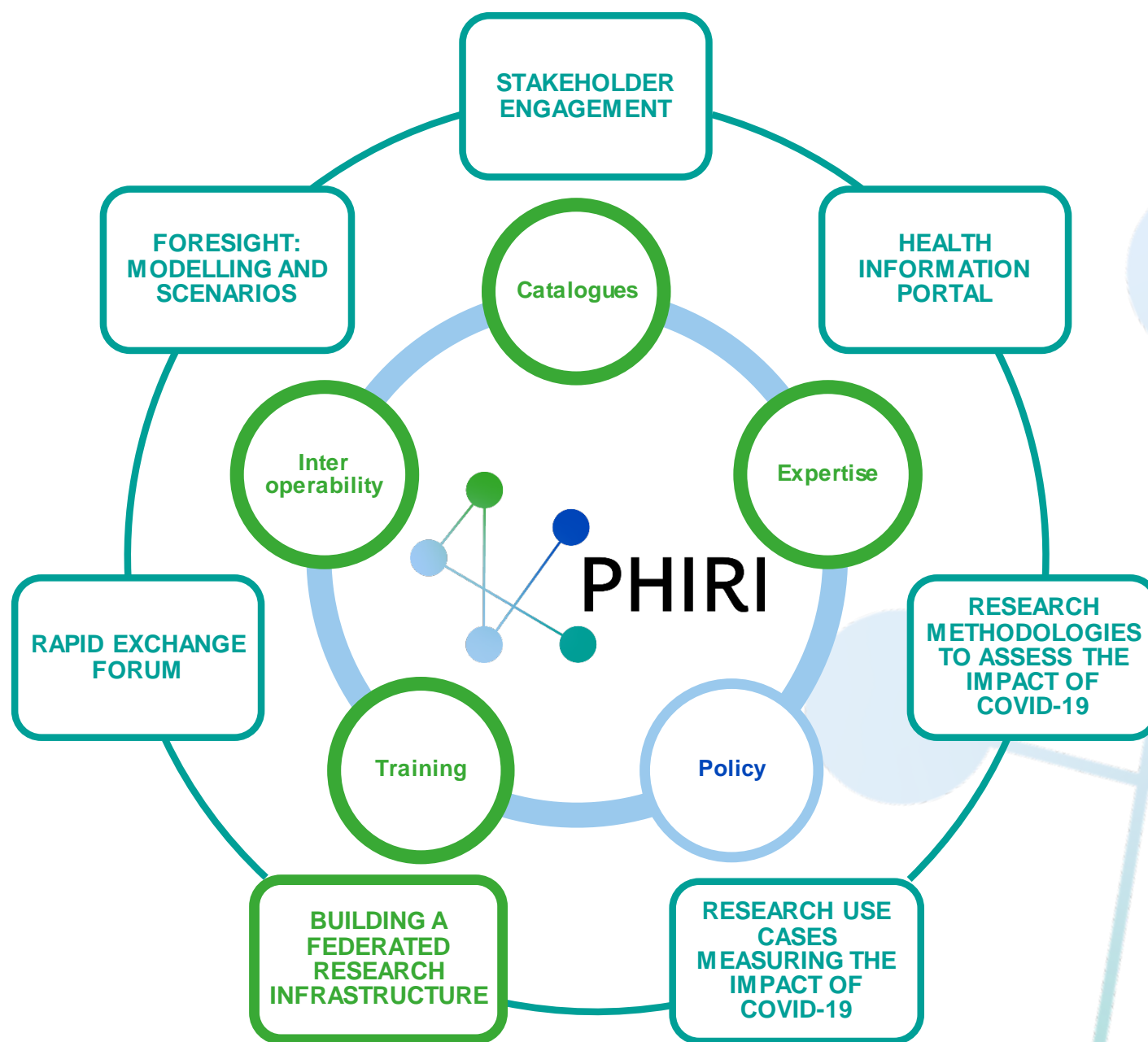
Has there been an increase in treatment delay in women diagnosed with breast cancer, as a consequence of the COVID19 crisis?



What is the impact of COVID-19 on perinatal health?



What are the COVID-19 related changes in population mental health?

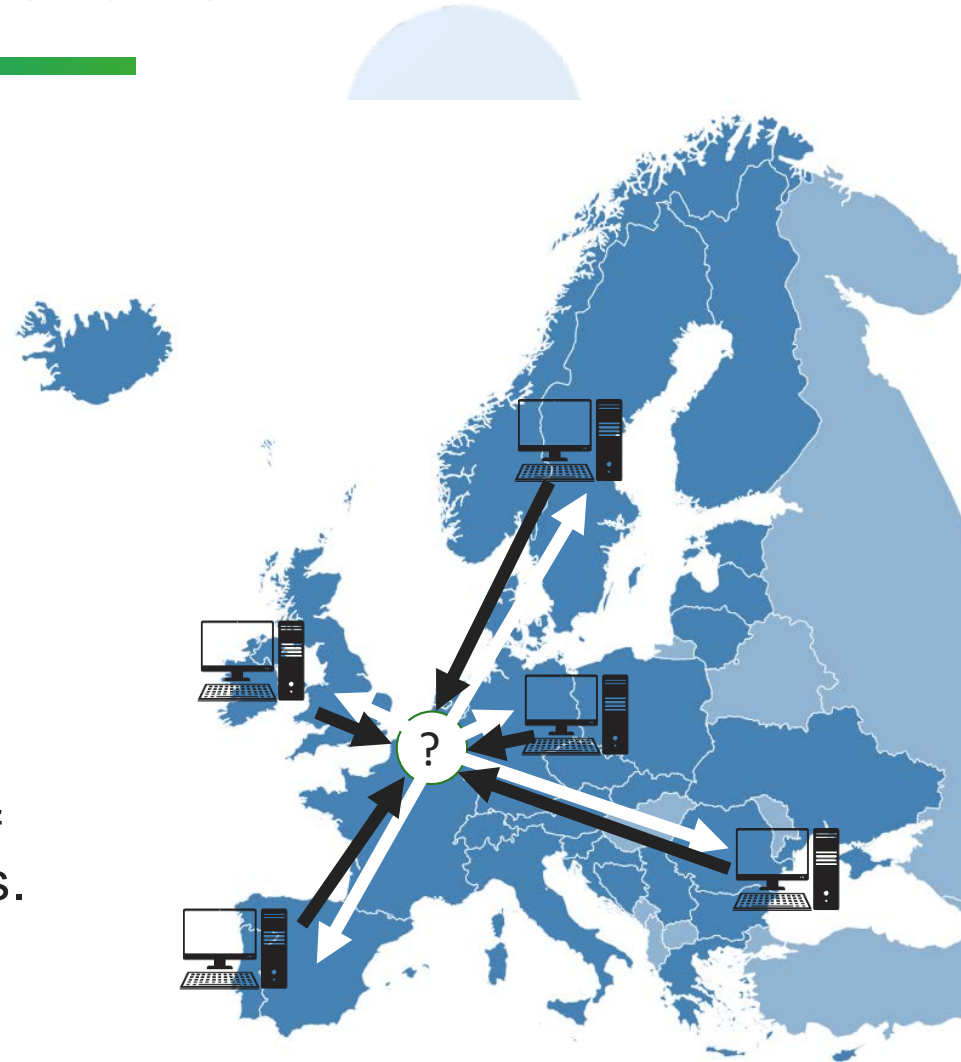


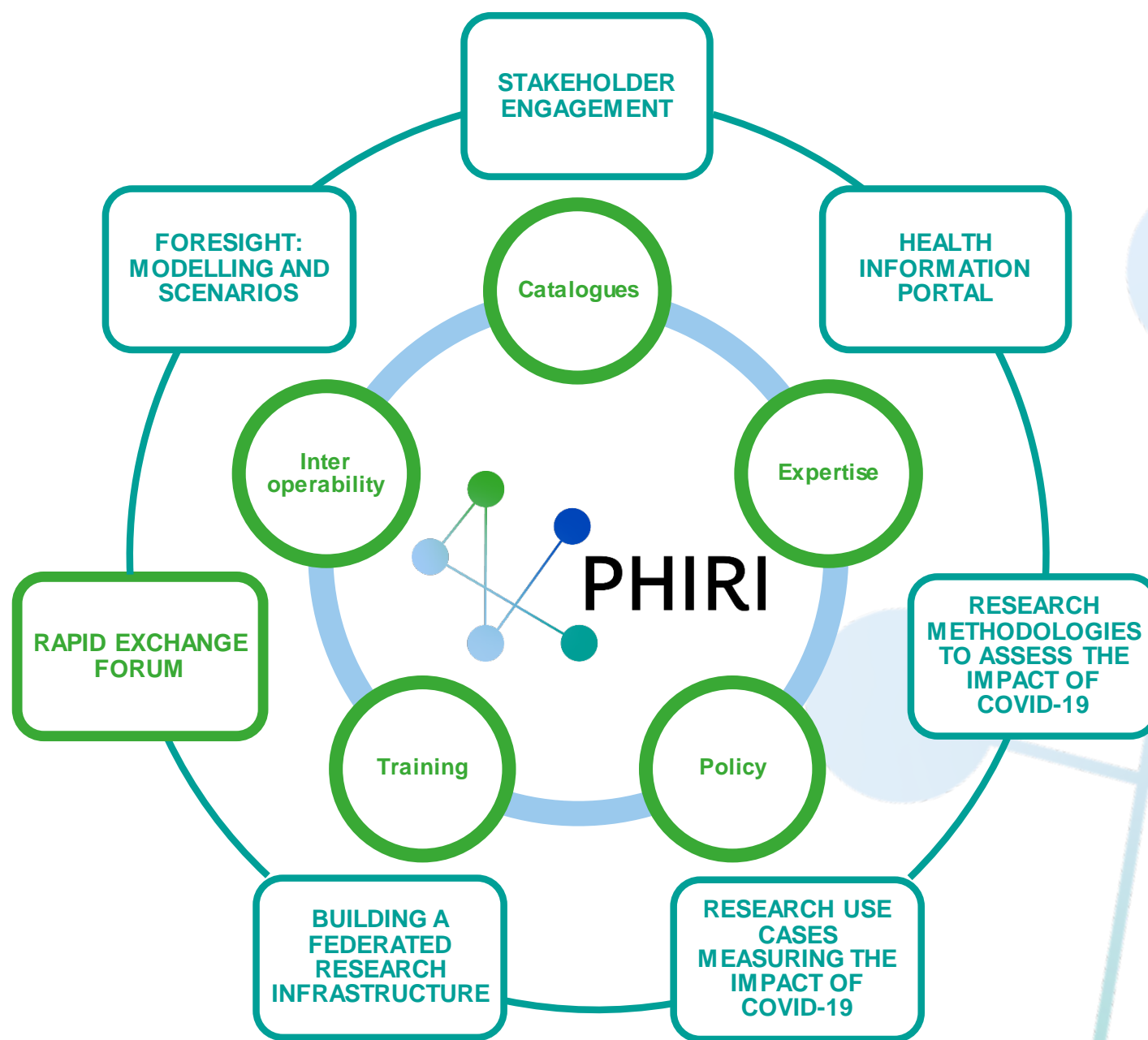
Federated research infrastructure

Showing the potential of the infrastructure for a rapid cycle analysis using a demonstration pilot case

Pilot, developing an advanced version of the federated research infrastructure, including:

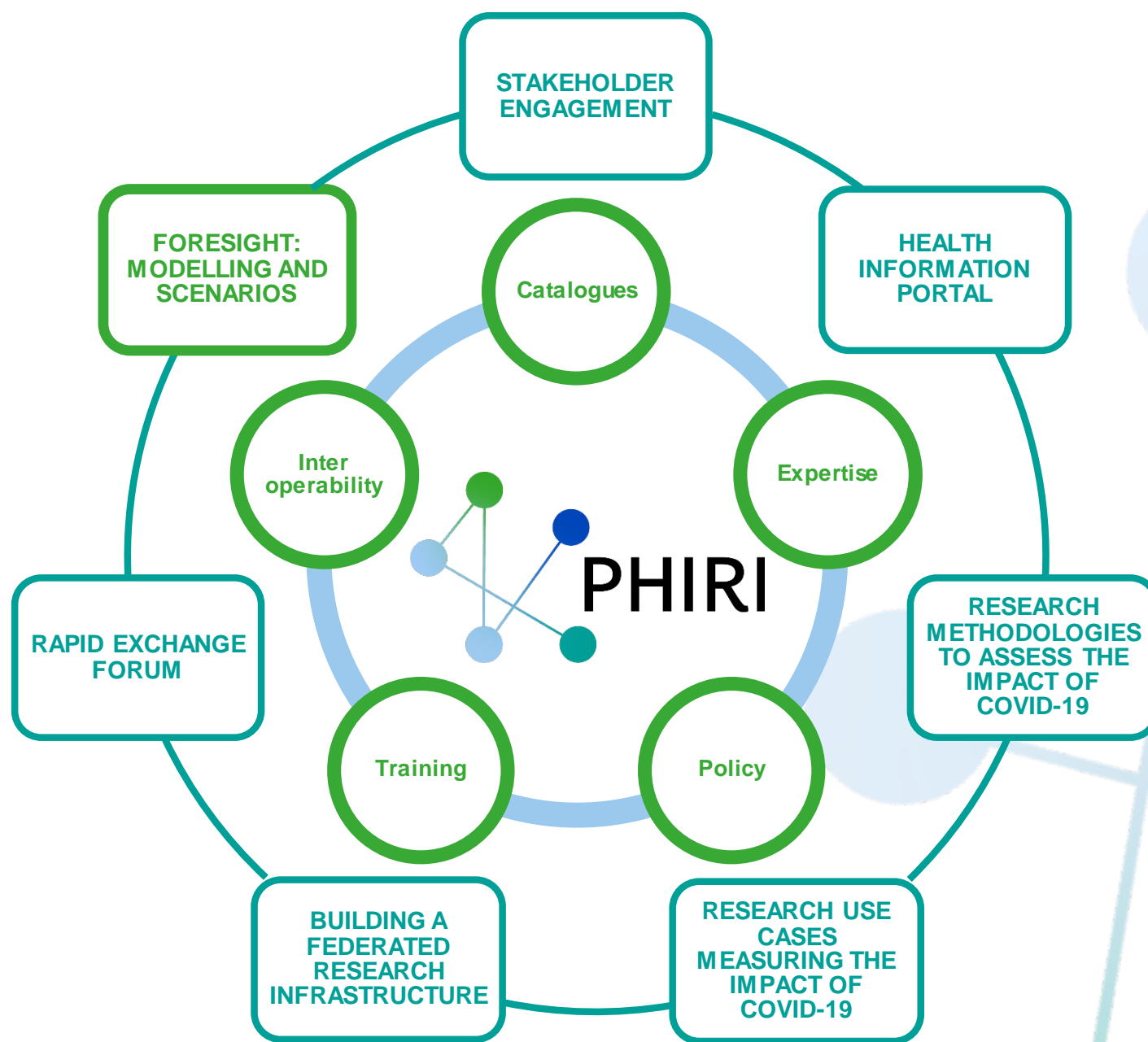
- a) The development of a common data model for a COVID-19 rapid response
- b) The design and deployment of the required data extraction, transformation and loading (ETL) processes and
- c) The implementation of the distributed analytical solutions, in particular the FAIR implementation of intermediate processes and final research outputs. This advanced version will mainly build on WP6 use cases





Rapid exchange forum

- Forum to provide rapid response to research and policy questions that are raised in countries
 - exchange (best) practices among countries regarding COVID-19
 - guidelines, standards, reports and initiatives
- Biweekly meetings to discuss urgent questions
 - For example on Vaccination strategy, border restrictions, testing strategy, quarantine measures etc.
- Address book: find an expert on a topic
- Dedicated section on Health Information Portal




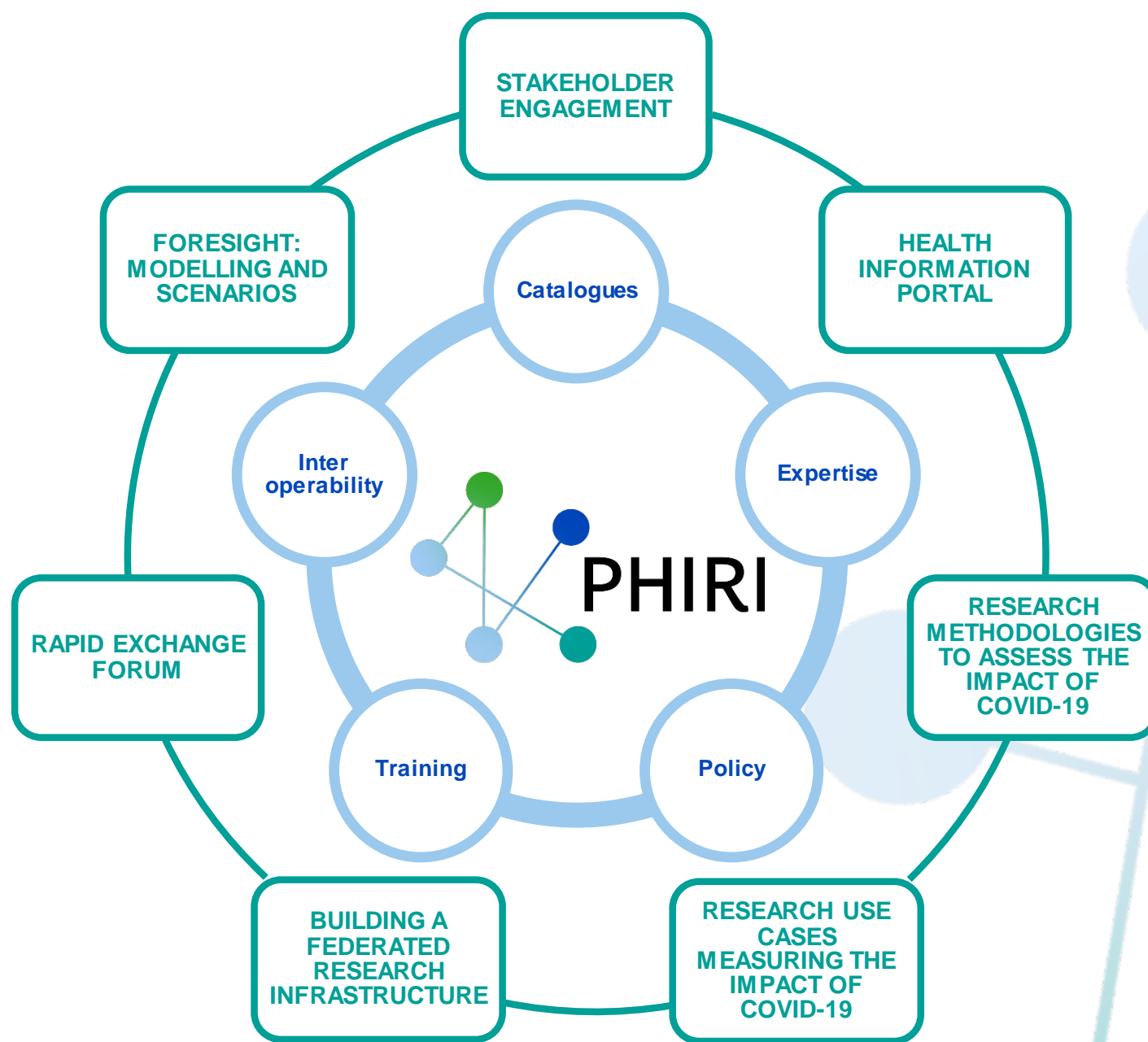


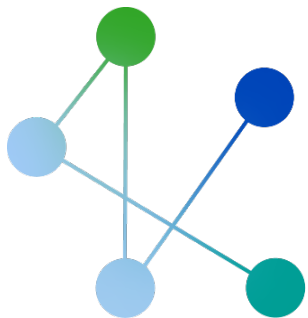
Foresight

Public Health Foresight Studies: explore different scenarios in a structured way to confront complex challenges and help create a better future.

Foresight studies try to answer questions like:

- What are the most important future trends and developments regarding health and health care?
 - Which scenarios for the future of public health and healthcare are plausible?
 - What are expected to be the biggest population health challenges in the future?
 - What could we do to target these challenges?
- 






PHIRI

Population Health Information
Research Infrastructure

Thank you!

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