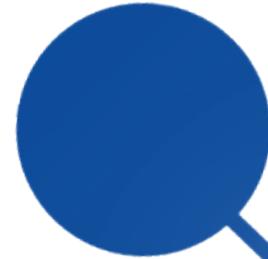
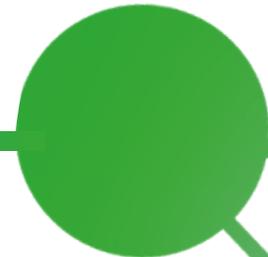


PHIRI

Population Health Information
Research Infrastructure

PHIRI Road Show Use cases & federated research

April 8th 2022



ROBERT KOCH INSTITUT



Instituto Aragonés de
Ciencias de la Salud

www.phiri.eu



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

PHIRI use cases – Objectives

4 research use cases measuring the impact of COVID-19 on population health



Direct and indirect determinants of COVID-19 infection and outcomes in vulnerable population groups with reference to inequalities



COVID-19 related delayed care in breast cancer patients

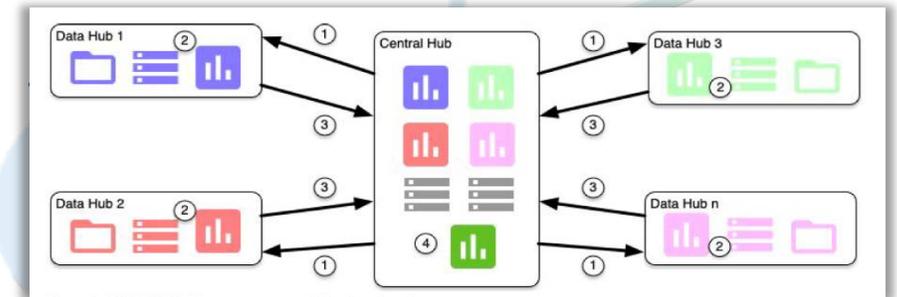


The impact of COVID-19 on perinatal health and perinatal health inequalities



COVID-19 related changes in population mental health

Demonstrate how a broad variety of secondary data (e.g. administrative and survey data) can be pooled and/or reused in a distributed way across Europe:



2. Pilot activities for the benefits and added value of a research infrastructure by bringing together data from different European countries and **feeding the results into the federated research infrastructure**

PHIRI use cases – Mid Project achievements

1st round questionnaire

- ✓ Aims to get a better sense on the actual access to data and data hubs' capabilities



2nd round questionnaire

- ✓ Specific of each use case, to start off the process of harmonising data throughout a common data model



PHIRI use cases – Mid Project achievements

→ In **over 20 data hubs**, data is mobilized and ready to be analyzed in a distributed manner



USE CASES	PARTNERS PARTICIPATION																			N PARTNERS					
	SCIENSANO	GÖG	FBIH	CIPH	UZIS	NIHD	THL	INSERM	RKI	EOPYY/UTH	AEEK	ISS/UNIVPM	CDPC	RIVM	NIPH/HD	DGS/UNL	INSP	NCZI	NIJZ		ISCI	IACS	FoHM	SU	
A	P	L	P		P	P			P		P	P	P	P			P	P	P	P				L	15
B	L		P	P	P	P					P	P	P			P	P	P				L		P	13
C	P		P	L				L	P			P	P				P	P						P	10
D	P	P	P	P		P	L				P	P	P		P	P			P	P	L			P	15

Legend: L Leader
P Participant partner

PHIRI use cases – Mid Project achievements

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USE CASE A
Vulnerable populations
Has the COVID-19 pandemic changed existing patterns of non-COVID-19 health care utilization and mortality for vulnerable populations within and between countries?
[CHECK THE DATA MODEL HERE!](#)

USE CASE B
Delayed treatment in breast cancer
Has there been any increase in surgical and/or chemotherapy treatment delay in eligible women diagnosed of breast cancer, as a consequence of the COVID-19 crisis?
[CHECK THE DATA MODEL HERE!](#)

USE CASE C
Perinatal health
Focus on the indirect effects of the COVID-19 pandemic on maternal and newborn health with a focus on potential inequalities regarding non-deferrable healthcare needs and risks of adverse perinatal outcomes due to stress and social deprivation.
[CHECK THE DATA MODEL HERE!](#)

USE CASE D
Mental health
Has there been any increase in individuals with mental health risk factors or mental disease, as a consequence of the COVID-19 crisis? This case study will measure changes in population mental health and healthcare utilization associated with the COVID-19 pandemic.
[CHECK THE DATA MODEL HERE!](#)

Application

Data mapping
1) Select the Use Case you want to participate in and introduce your data for analysis. Data should be extracted from your health information systems following the requirements and specifications of the data model of the use case.

General analysis
2) Select the Use Case you want to participate in and launch the analyses provided by the Use Case coordinators. Analysis scripts are open source and can be audited by anyone.

docker

zenodo

Links to other deliverables:

Common Data Models for the different use cases (included in the PHIRI app):

- PHIRI - WP7 - Pilot Common Data Model <https://doi.org/10.5281/zenodo.5148467>
- PHIRI - WP6 - Use Case A Common Data Model <https://doi.org/10.5281/zenodo.5148014>
- PHIRI - WP6 - Use Case B Common Data Model <https://doi.org/10.5281/zenodo.5148022>
- PHIRI - WP6 - Use Case C Common Data Model <https://doi.org/10.5281/zenodo.5148032>
- PHIRI - WP6 - Use Case D Common Data Model <https://doi.org/10.5281/zenodo.5148040>

RMarkdown scripts for analysis for the different use cases (included in the PHIRI app):

- PHIRI - WP6 - Use Case A scripts for local analyses (R Markdown) <https://doi.org/10.5281/zenodo.6377096>
- PHIRI - WP6 - Use Case B scripts for local analyses (R Markdown) <https://doi.org/10.5281/zenodo.6359893>
- PHIRI - WP6 - Use Case C scripts for local analyses (R Markdown) <https://doi.org/10.5281/zenodo.6380734>
- PHIRI - WP6 - Use Case D scripts for local analyses (R Markdown) <https://doi.org/10.5281/zenodo.6377112>

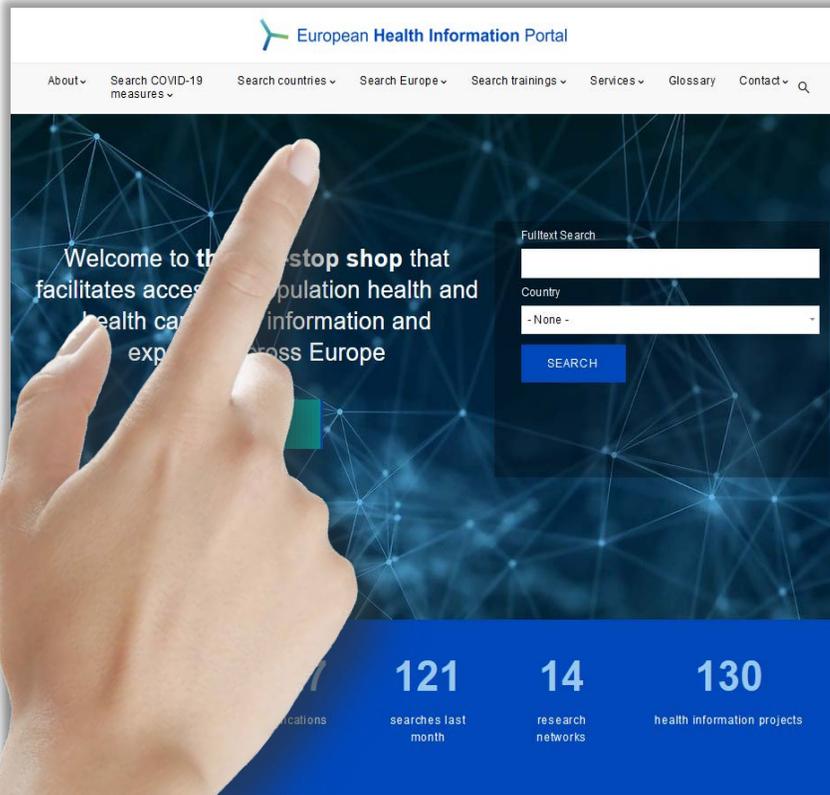
→ In over 20 data hubs, data is mobilized and ready to be analyzed in a distributed manner

→ In 12 data hubs, the PHIRI-app Docker is already deployed and tested

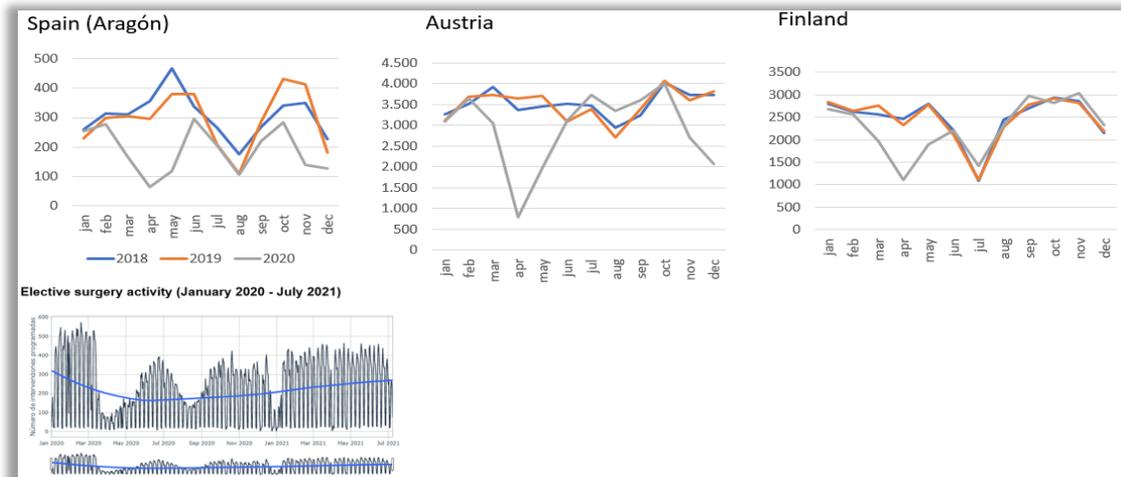
USE CASES	PARTNERS PHIRI-APP DEPLOYMENT																	N PARTNERS							
	SCIENSANO	GÖG	FBIH	CIPH	UZIS	NIHD	THL	INSERM	RKI	EOPYY/UTH	AEEK	ISS ISS/UNIVPM	CDPC	RIVM	NIPH/HD	DGS/UNL	INSP		NCZI	NIJZ	ISCI	IACS	FoHM	SU	
A, B, C, D	D	*		D	D		*					D		D		*			D		D	D	D	D	9
Legend:	D	PHIRI-app Docker deployed and tested																							
	*	Partners that have made the commitment to test the solution in their systems (WP7 De																							



PHIRI use cases – Mid Project achievements

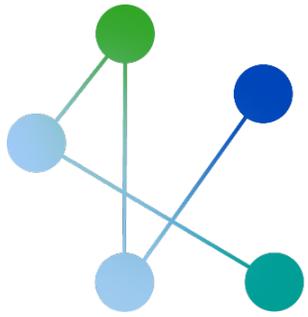


- In **over 20 data hubs**, data is mobilized and ready to be analyzed in a distributed manner
- In **12 data hubs**, the PHIRI-app Docker is already deployed and tested
- First results are expected in **May 2022** and will be published on the **Health Information Portal**



What's next?

- Supporting the use cases' full deployment
- Developers' forum
- Mapping CDM to OMOP
- FRI upgrading
 - Communication across nodes – towards a M-to-M approach
 - Distributed algorithms - towards federated learning
 - Design of future computing solutions (hardware and software)



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Thank you very much for your attention!

Name: Enrique Bernal-Delgado & Martin Thissen
E-mail: PHIRI.IACS@aragon.es; PHIRI-Germany@rki.de
Follow us on Twitter:  @PHIRI4EU

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