

WORK PACKAGE 6: RESEARCH USE CASES - MEASURING THE IMPACT OF COVID-19 ON POPULATION HEALTH

ABOUT PHIRI

Health is a cross-border issue, recently demonstrated by the COVID-19 public health crisis. Especially in the area of **population health, a structured European mechanism for COVID-19 exchange** to organize and share information between countries is urgently needed. PHIRI's vision, the [Population Health Information Research Infrastructure](#), is to implement a **research infrastructure** to facilitate and generate the best available evidence for research on health and well-being of populations as impacted by COVID-19. PHIRI allows for better coordinated European efforts across national and European stakeholders to generate the best COVID-19 population health knowledge to **underpin decision making**. In doing so, PHIRI lays the foundation for a **federated research infrastructure** on population health.

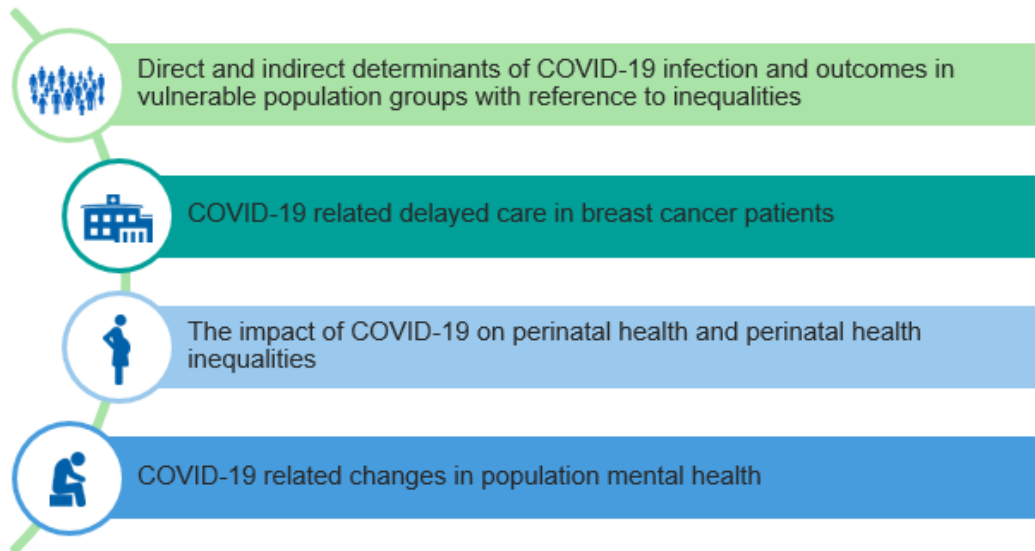
Timeline: 1 Nov 2020 – 3 years
Coverage: 41 partners in 30 countries

THE WORK PACKAGE 6 USE CASES

The aim of PHIRI Work Package (WP) 6 is to 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**. WP6 looks at COVID-19 impacts in specific subgroups by conducting research through real life use cases of immediate relevance. Furthermore, these use cases represent **pilot activities for the benefits and added value of a research infrastructure** by bringing together data from different European countries. The outputs of the use cases are processed by formalising data models, data management processes and analytical pipelines in an interoperable way to **feed into the federated research infrastructure** (to be developed in [PHIRI WP7](#)).

WP6 facilitates research by making scalable, reproducible methods available within PHIRI and by publishing the FAIRified use cases analysis results on the [Health Information Portal](#). Case study reports are published in July 2022. These use cases will provide **outcomes to guide policy makers in preparedness and response scenarios** and will ensure the development of a format for the timely dissemination of use case results to the targeted groups, e.g. through fact sheets and via webinars.

Lead: RKI – Germany
Co-lead: INSP – Romania



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

lead: Swansea University-UK/Wales & GÖG-Austria



Wide variations in COVID-19 infection and outcomes exist across Europe and within countries. It is unclear whether variation reflects differences in infection rates, population proportions vulnerable through risk factors (socioeconomic factors such as poverty, education, housing circumstances, occupation, ethnicity, and behavioural and health conditions) or mitigation measures and especially the response in changes in behaviour and the adaptation to non-pharmaceutical intervention (NPI) measures. Variations in approaches to protecting vulnerable groups will influence population outcomes during waves of infection. The COVID-19 pandemic has changed the distribution of risk factors that, in turn, will influence the future epidemiology of non-communicable and communicable diseases.

1. Has the COVID-19 pandemic changed existing patterns of non-COVID-19 health care utilisation and mortality for vulnerable populations within and between countries?
2. Do area based deprivation measures (or individual measures of socioeconomic position), different distributions of ethnicity/nationality, clinical risk factors and protective interventions (e.g. vaccination) explain variations in SARS-COV2 infection rates, COVID-19 health care utilisation, and COVID-19 mortality between countries/settings?

Use Case B - COVID-19 related delayed care in breast cancer patients

lead: INSERM-France & CIPH-Croatia



Healthcare systems all across Europe have had to reorganise services and reallocate resources so as to provide attention to COVID-19 patients. Because of the rampant increase of cases that required intensive attention or because of the inherent risk of COVID-19 nosocomial infection, all countries have been forced to cancel or postpone non-urgent care (e.g., elective surgery). In addition, most of the countries have witnessed a worrisome decrease in emergency cases, specifically on acute cardiovascular conditions. Preliminary and local evidence suggests the presence of delayed care in cancer diagnosis and optimal treatments.

1. Has there been any increase in surgical and/or co-adjuvant (i.e. radiotherapy, chemotherapy, immunotherapy) treatments delay in eligible women diagnosed of breast cancer, as a consequence of the COVID19 crisis?

Use Case C - The impact of COVID-19 on perinatal health and perinatal health inequalities

lead: IACS-Spain & Sciensano-Belgium



Pregnant women and newborns are vulnerable during infectious disease pandemics because of specificities in their immune systems, maternal-fetal transmission, non-deferrable healthcare needs and risks of adverse perinatal outcomes due to stress and social deprivation. Consequences can be life-long and perpetuate health inequalities across generations.

1. Were population indicators of maternal and newborn health affected by the pandemic/lockdown?
2. Did access to and use of maternity and newborn health services decrease during the pandemic/lockdowns?
3. Did these effects differ across countries and by socioeconomic context?

Use Case D - COVID-19 related changes in population mental health

lead: ISCIII-Spain & THL-Finland



Individuals with mental health risk factors or mental disease are most commonly affected by COVID-19 confinement measures and the impact of the COVID-19 pandemic. This case study will measure changes in population mental health associated with the COVID-19 pandemic.

1. Has the mental health status (depression/anxiety) of the general population changed during the COVID-19 pandemic?