

# Measuring direct/indirect impact of COVID-19 pandemic: the Italian example in the PHIRI project



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**Aims** to create and implement a federated research infrastructure based on the secondary use of administrative health-care databases data and real-world data for assessing the direct and indirect effects of the pandemic.

**Italian** results from the Istituto Superiore di Sanità-ISS and the Polytechnic University of Marche-UNIVPM

**Methods:** PHIRI Research Centers identified and processed the data necessary for the comparison between the pre (2017-19) and post (2020-2021) pandemic periods using a specific Linux container (Docker). It allows sharing the analysis procedure, to perform it locally without any transfer of sensitive data, to produce structured results reports

## WP6: Carries out research use cases measuring the impact of COVID-19 on population health

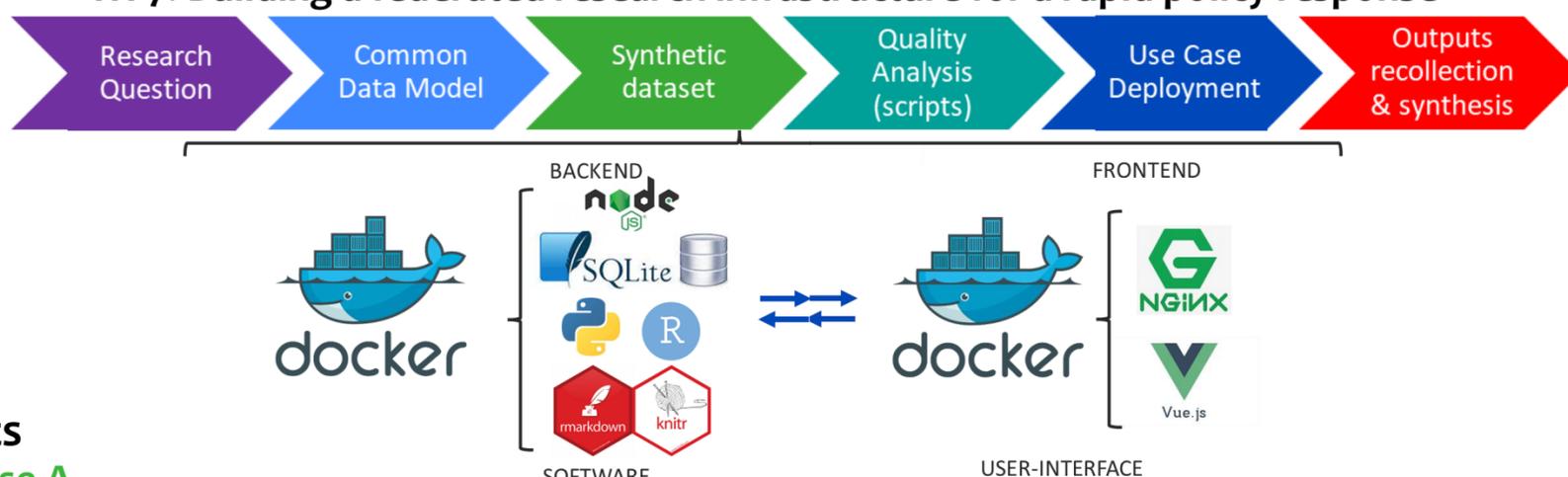
**Use Case A:** Direct and indirect determinants of SARS-CoV2 infection and outcomes in vulnerable population groups with reference to inequalities

**Study period:** 2017 – 2021; **Population:** Italian; **Source:** National Discharge Database; **Outcome:** Hospitalization for Heart attack and strokes, Hip and knee replacements and Trauma.

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

**Study period:** 2017 – 2021; **Population:** Women, 18-80 years, residing in Marche Region, first diagnosed of breast cancer; **Source:** Healthcare Administrative Databases of Marche Region. **Outcome:** Time to therapeutic intervention

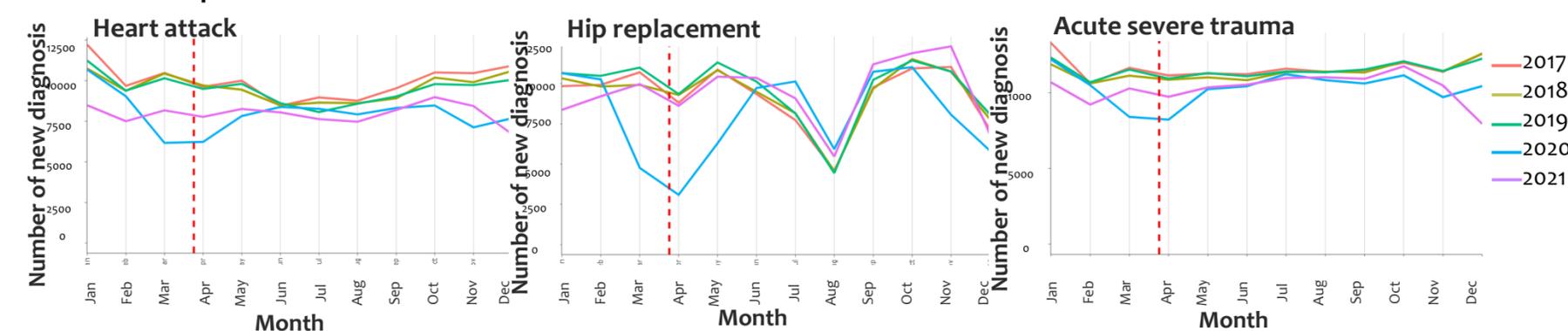
## WP7: Building a federated research infrastructure for a rapid policy response



## Results

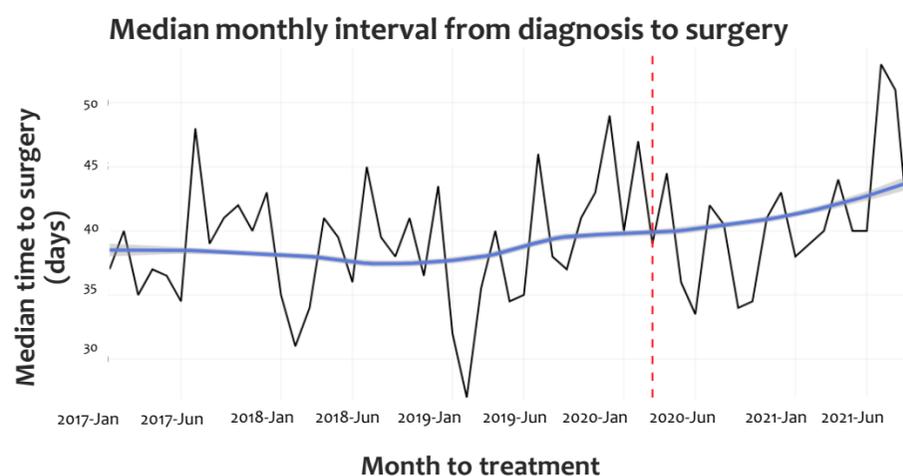
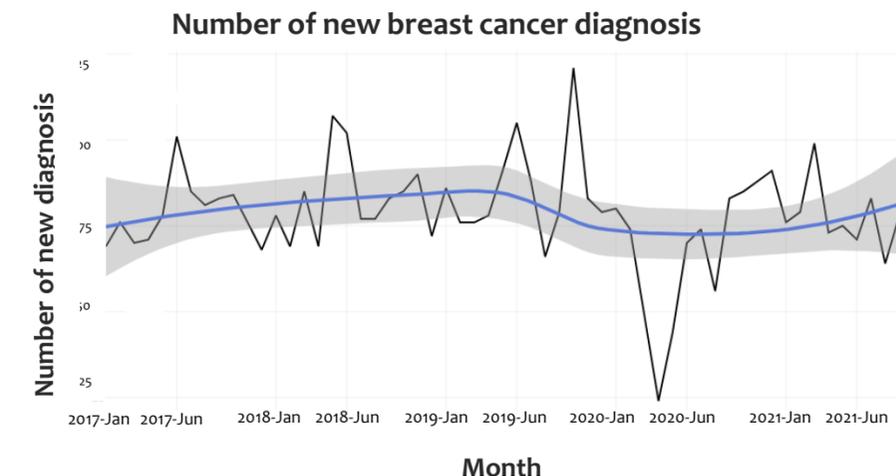
### Use Case A

Number of Hospitalizations for:



Overall 1,101,778 hospitalizations were identified in Italy in 2017-2019 (348,674 for Heart attack; 338,613 for hip replacement; 414,491 for trauma), 316,672 in 2020 (96,135; 96,431; 124,106, respectively) and in 2021 (95,695; 113,674; 124,030, respectively)

### Use Case B



Overall 818 and 877 new breast cancer interventions were identified in the Marche region in 2020 and 2021 respectively; 2964 in 2017-2019. Median time from diagnosis to surgery was 39 days (IQR: 26-61) in 2020, 41 days (IQR: 28-59) in 2021 versus 39 days (IQR: 24-56) in 2017-2019 ( $p = 0.08$ ,  $p < 0.05$  respectively).

**Conclusion:** A European system of sharing information and methodologies, enabling the secondary use of administrative health-care databases and real-world data, can produce useful evidence to face future crises.