

EOSC-Pillar

Coordination and Harmonisation of National & Thematic Initiatives to support EOSC

Technical track

Overview of the technical work and achievements done during the course of the project



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Session agenda

- * Are we ready for another pandemic? Scientific and data considerations – V.B.
- * Solving the data aggregation and data integration problems - Philipp von Hartrott
- * Solving the service findability and the analytics problem - Leonardo Candela (remotely)
- * Concrete case - Gilles Mathieu
- * Questions/Discussions

Please keep your questions for the end of the session



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Are we ready for another pandemic? Scientific and data considerations

Vincent Breton



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Just coming out of COVID-19, the potential for new pandemics is considered very high

Many possible origins:

- zoonoses (bird flu)
- existing viruses (Ebola)
- old viruses released by climate change
- manmade viruses
- ...

Why this Ebola outbreak in Uganda might be more worrisome than others

By Matt Field | October 7, 2022



The US government announced air passengers who had recently been in Uganda would travel to one of five airports for enhanced screening to detect possible Ebola infections, screenings similar to the one depicted in this 2014 photo. Credit: US Government.



Matt Field

Matt Field is editor, biosecurity at the Bulletin of the Atomic Scientists. Before joining the Bulletin, he covered the White House, Congress, and... Read More



What can we learn from COVID-19 outbreak to better prepare future pandemics?

The key questions

How to detect the disease earlier ?

How to help people to be protected from the beginning ?

How to find quickly new treatments ?

How to be ready to produce vaccines?

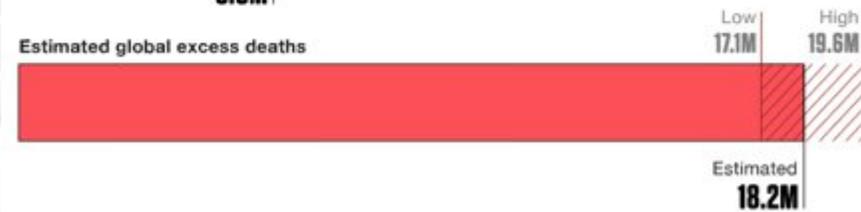
THE TRUE TOLL OF COVID

"Excess deaths" measures the impact of COVID by including people whose deaths were indirectly caused by the pandemic.

Official count of COVID deaths

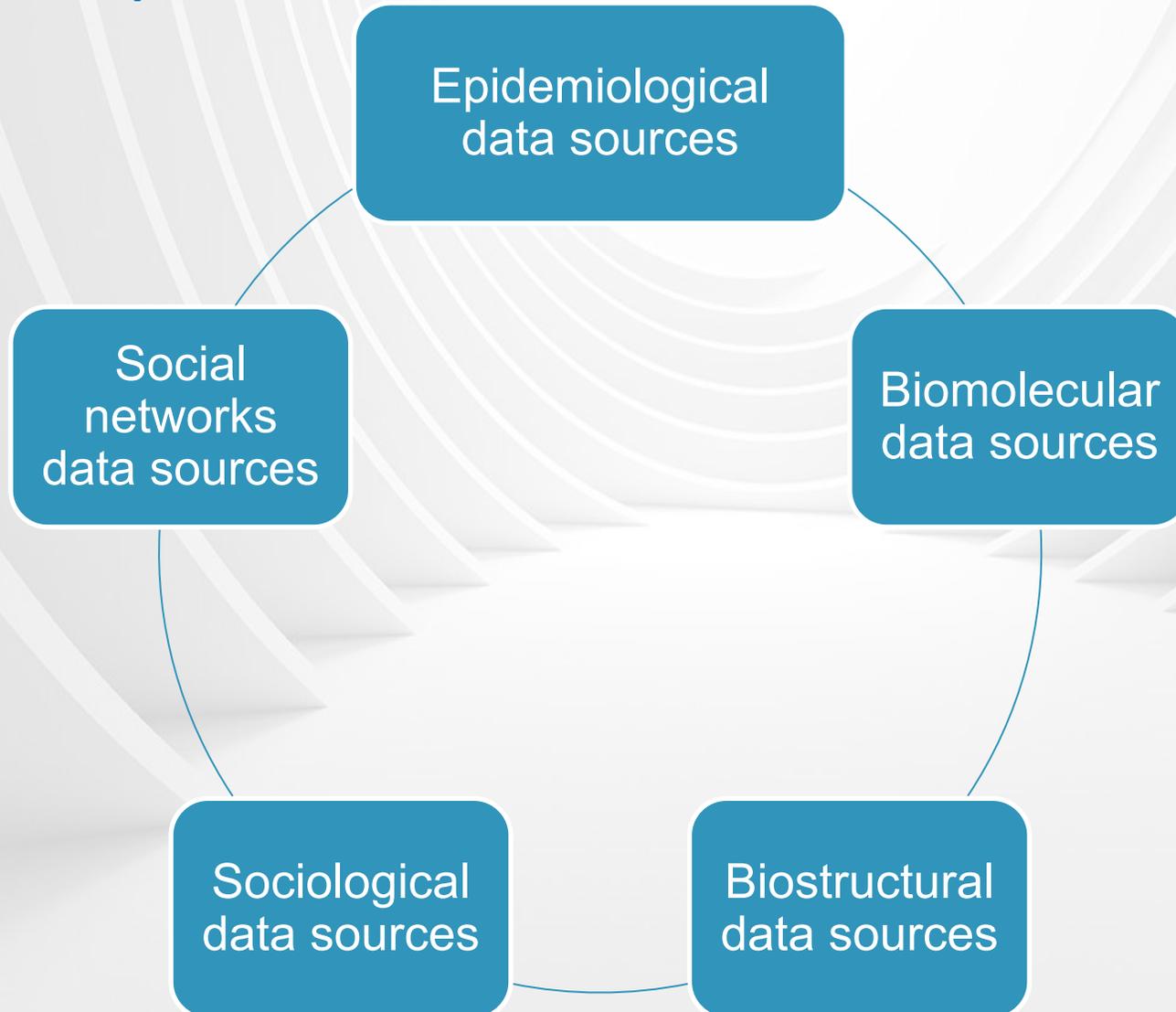


Estimated global excess deaths



Source: IHME (Data from January 2020 to December 2021)

Addressing these questions requires aggregating data from multiple data sources

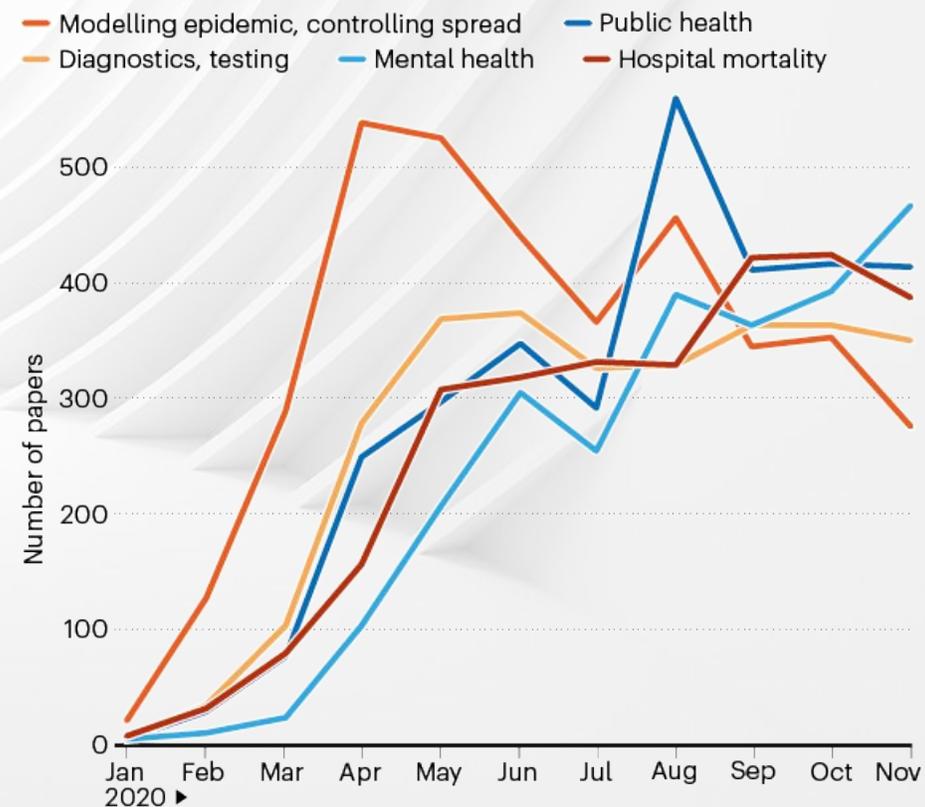


What are the challenges?

- * Need to aggregate data coming from sources at regional, national and international scales
 - * From the individual hospital to the European Center for Disease Control and Prevention or WHO
- * Need to continuously monitor the scientific literature
 - * +87000 articles already published in october 2020
 - * <https://github.com/allenai/cord19> for an example
 - * quality ?
- * Need to continuously monitor the emergence of new data sources

CORONAVIRUS PAPER TOPICS

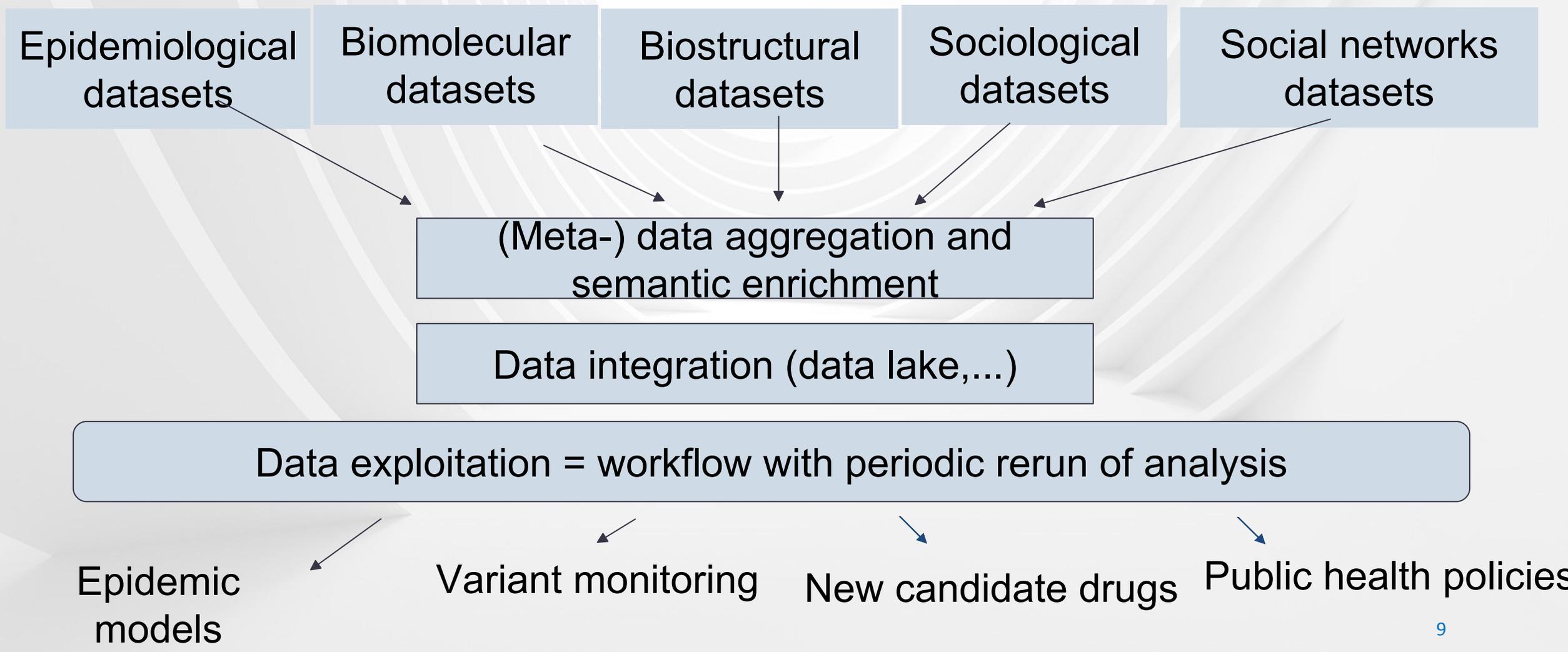
After an early focus on modelling the spread of the pandemic, researchers are now turning to other topics, an analysis of PubMed papers and preprints suggests.



Additional challenges

- * Joint analysis of data coming from multidisciplinary data sources is needed for analysis workflows
 - * Example: epidemic modelling requires access to scientific literature, epidemiological and sociological datasets
- * Data reprocessing: the truth of today is not the truth of tomorrow
 - * Especially true in pandemic early days

EOSC added value



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Thank you!

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