Welcome to the

Data are not enough
We need surveillance!

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#Pop Health Lab

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Where are the data?

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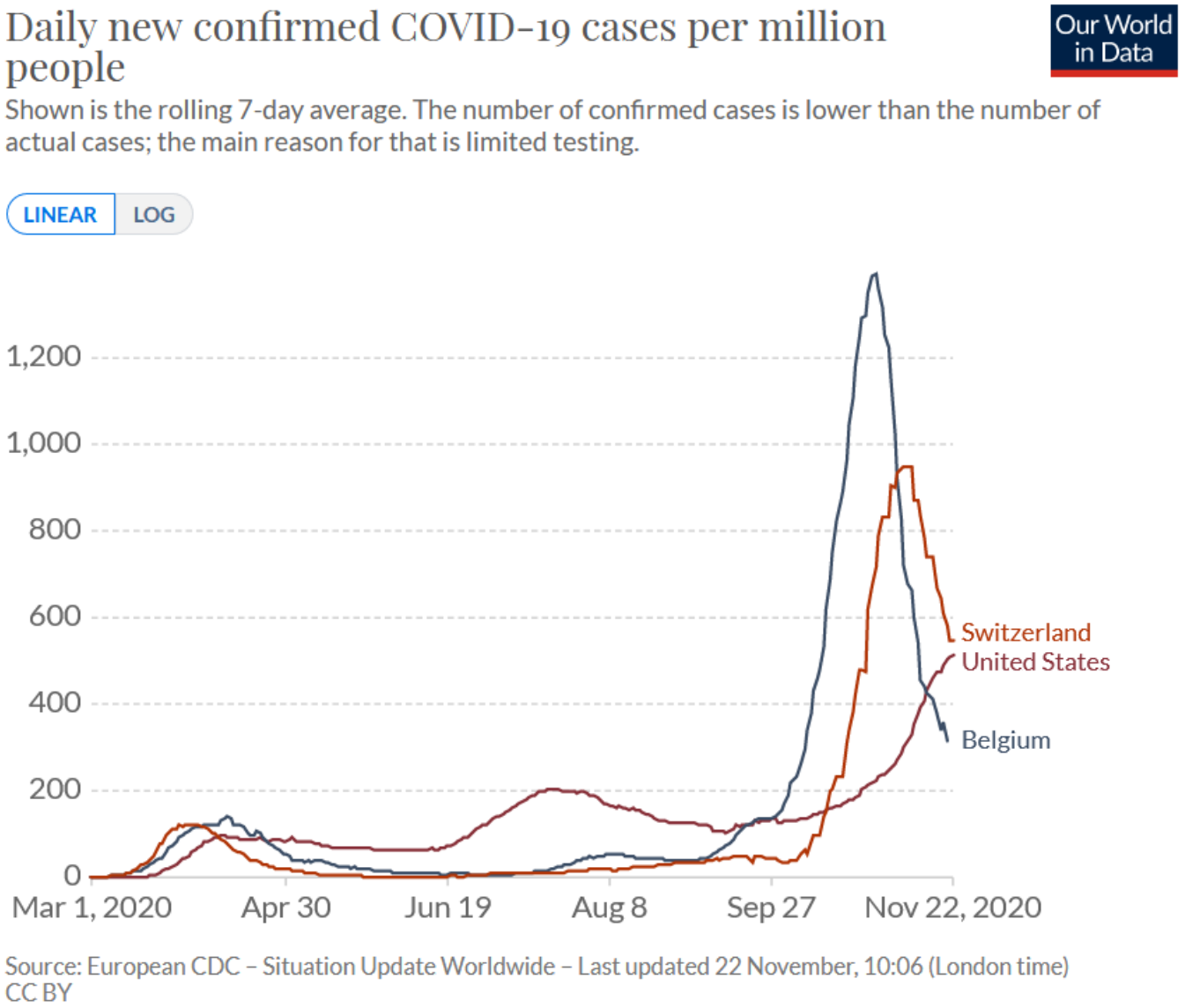


Plan of the presentation

- What is public health surveillance
- We need data…
- and we have (more and more) data
- But (small as well as big) data do not speak by themselves
- Toward evidence- and data-based public health

To make people count, we first need to be able to count people

said the late WHO Director-General Lee Jong-wook in an address to WHO staff a decade ago.

Lancet 2013; 382:2040

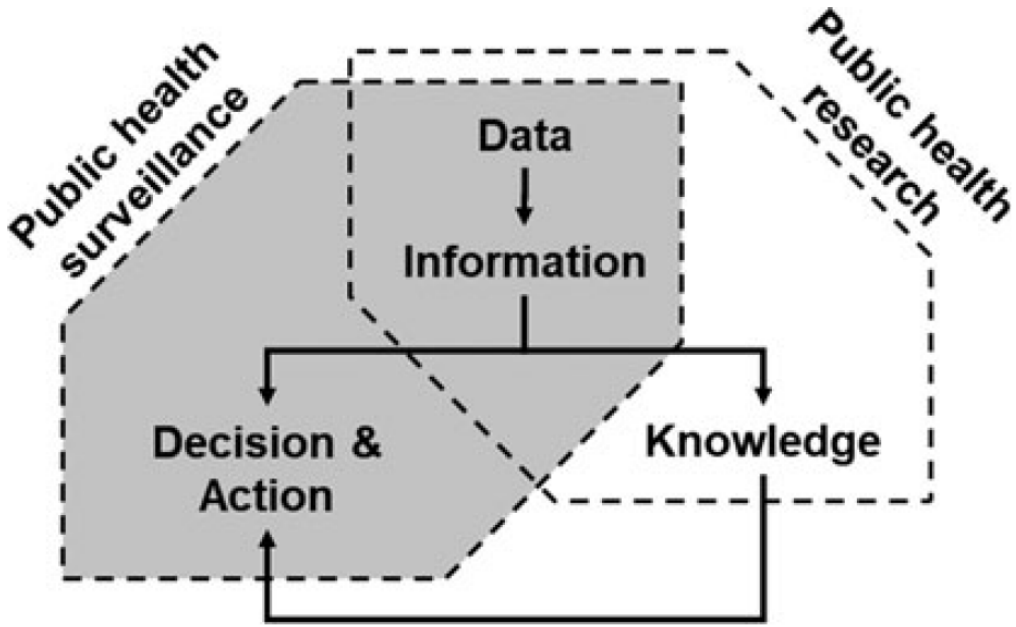
What is public health surveillance

- Public health surveillance is the
  - **ongoing systematic collection, analysis, and interpretation** of data,
  - closely integrated with the timely **dissemination** of these data to those responsible **for preventing and controlling disease and injury**

- To provide information **useful for decision and action in public health**

What is public health surveillance

- Surveillance ≠ research



Chiolero & Buckeridge. Glossary for public health surveillance in the age of data science JECH 2020

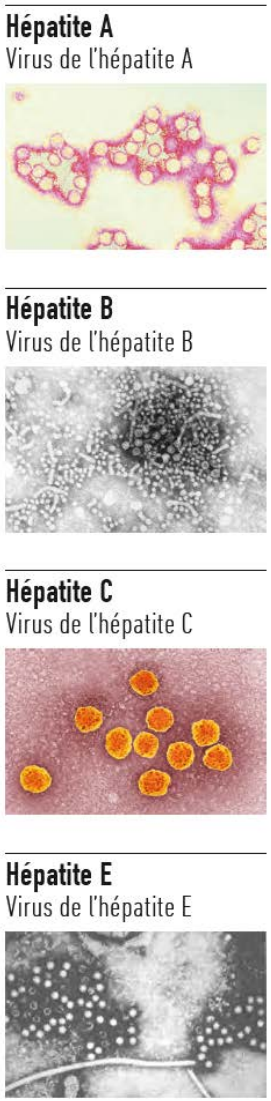
We need data…

- To assess the burden of disease
- To design and evaluate public health policies
- To produce information useful for decision

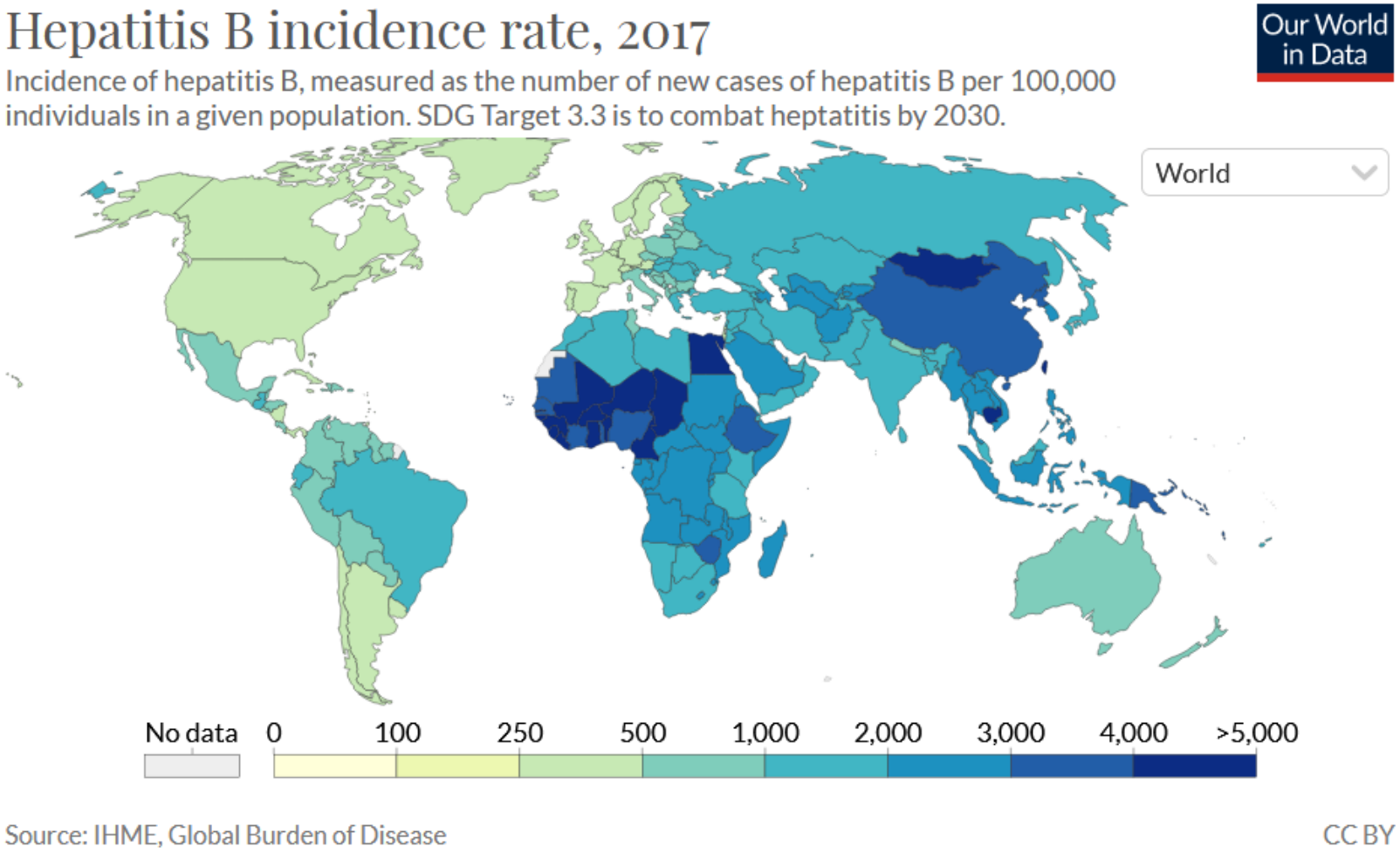
We have some data on hepatitis

"In Switzerland, about 0.5% of the population are infected with the hepatitis B virus (…). Around 40 cases of acute hepatitis B are notified per year in Switzerland, with a downward trend."
https://www.bag.admin.ch/bag/en/home/krankheiten/krankheiten-im-ueberblick/hepatitis-b.html

"In Switzerland, about 0.5 % of the population are infected with the hepatitis C virus (…). The number of people reported with acute hepatitis C has remained stable in Switzerland since 2006; about 50 new cases are reported each year."
https://www.bag.admin.ch/bag/en/home/krankheiten/krankheiten-im-ueberblick/hepatitis-c.html



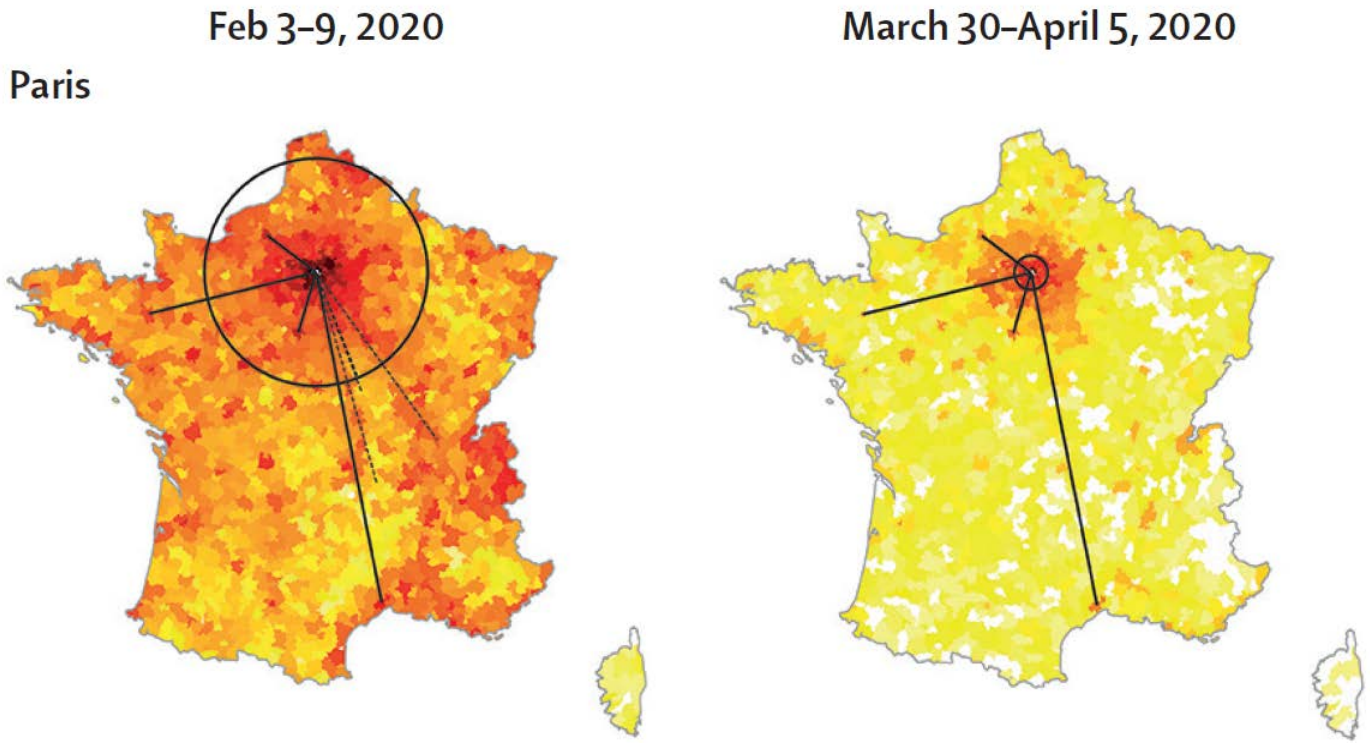
We have some data on hepatitis



and we have (more and more) data

- Big data
- Health related
  - Medico-administrative data
  - Digital trace (internet, social media)
- All other types of not health related data
- Paradigm change in surveillance
  - From designed to organic data

and we have (more and more) data



The Lancet Public Health

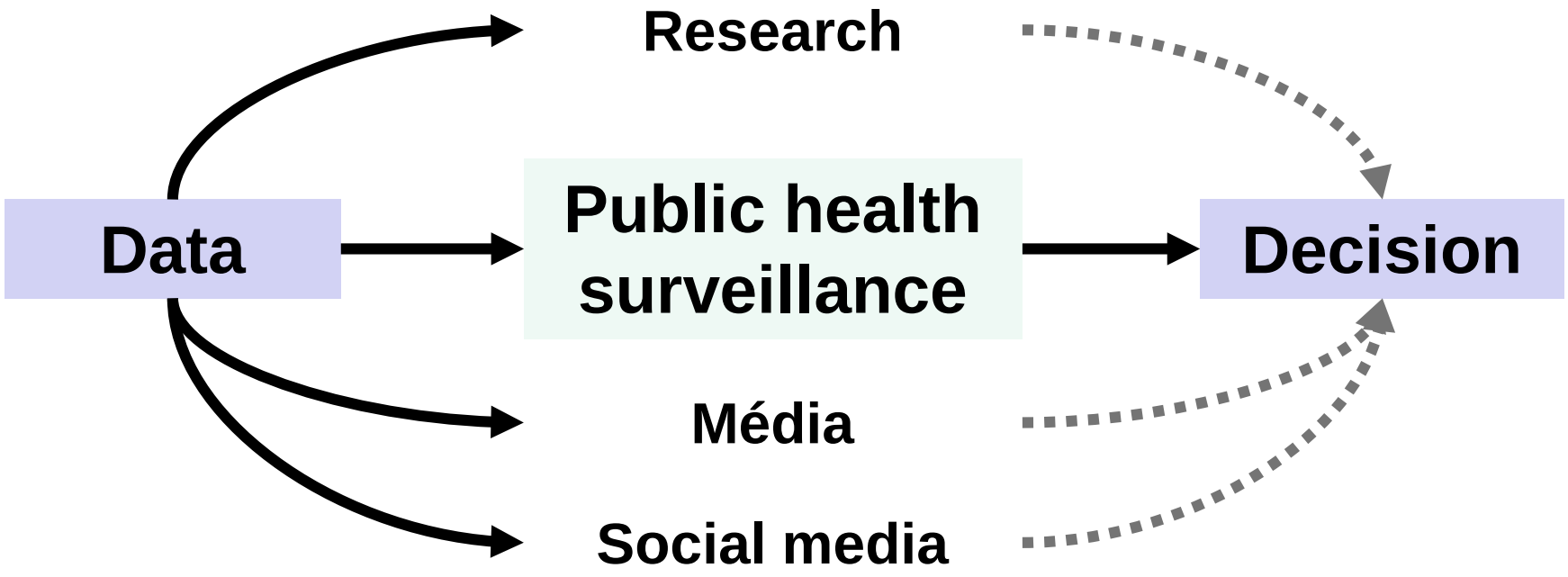
Paradigm change in surveillance (1)

- Classical process: identify the health problem → define and collect data (finite amount) → analyze data to address the problems
  - Pro: designed data, i.e., tailored for your problem [Keller 2012], information on their validity, reliability, and completeness (or its lack)
  - Cons: poor timeliness, limited scope, high cost

Paradigm change in surveillance (2)

- Big data/eHealth age: all types of data collected from multiple sources without knowing exactly what you will do with these data → analyze data to identify problems and address problems
  - Pro: timeliness, representativeness, low cost
  - Cons: organic data, i.e., not tailored for your problem [Keller 2012], quality (poor, unknown), representativeness, management/storage, privacy/access [Chiolero 2013, 2014]

But (small as well as big) data do not speak by themselves



Toward evidence- and data-based public health

- Data ≠ information
- Surveillance ≠ research
- More and more data…
  - but they do not speak by themselves
- We need to strengthen
  - surveillance system
  - surveillance training and culture

Thank you for your interest

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