**MAKING** NEW **TREAT MENTS** POSSIBLE

POTENTIAL PHIRI AND BBMRI-ERIC COLLABORATION

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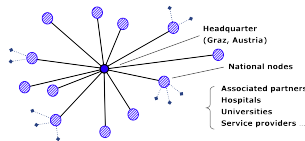
What is BBMRI-ERIC?

▶ **One of largest European RIs for medical research**
- ■ spans **20 member states** + IARC
- ■ **federated** biobanks and other resources across members states
- ■ makes **biological samples & medical/health data more FAIR** (findable, accessible, interoperable, reusable) and complaint to **FAIR-HEALTH**[1]
- ■ aims at **improving efficiency & reproducibility** of medical research

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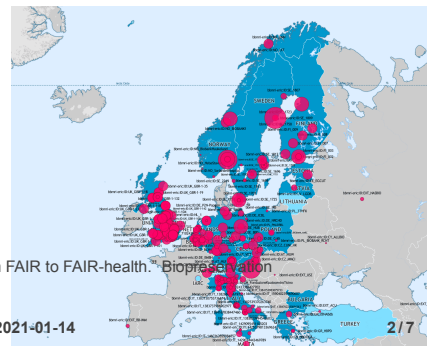
[1]   Holub, Petr, et al. "Enhancing reuse of data and biological material in medical research: from FAIR to FAIR-health." Biopreservation and biobanking 16.2 (2018): 97-105. doi.org/10.1089/bio.2017.0110

What is BBMRI-ERIC

▶ A **federated/hierarchical infrastructure** that provides/facilitates secure and privacy-protecting access to key resources in order to support biomedical research and to support healthcare advancement:

- bio**samples** from biobanks,
- related **data**: clinical, omics, phenotypes, etc.,
- **expertise** and other **services** (e.g., sample & data hosting),
- selected **central data resources** on ERIC level
- **clinical biobanks** and **population biobanks**

Headquarter
(Graz, Austria)

National nodes

Associated partners
Hospitals
Universities
Service providers

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biobanks := samples + data + expertise + services;
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BBMRI-ERIC and COVID-19

BBMRI-ERIC®

▶ BBMRI-ERIC is **global** on COVID-19 discovery and access

- 55 biobanks with COVID-19 samples and data globally
- >250k samples, >38k donors
  - big competition for getting the samples
- clinical data, imaging data, etc.
- on-demand collecting capability

▶ Services done by BBMRI-ERIC for COVID-19 research described in EJHG paper.[2]

BBMRI-ERIC is **global** on COVID-19 discovery and access (>250k samples, >38k donors)

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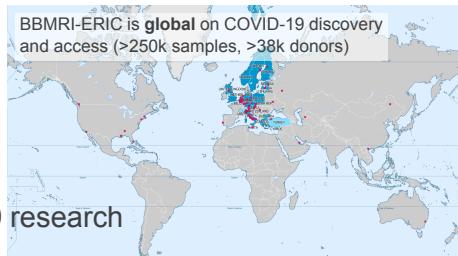
[2] Holub, Petr, et al. "BBMRI-ERIC's contributions to research and knowledge exchange on COVID-19." European Journal of Human Genetics (2020): 1-4.

Challenges in Health Data Sharing

- ▶ **Interoperability** of health data in heterogeneous European space
- ▶ Availability of **reliable structured data** from health care
  - ■ costs and expertise to obtain those
- ▶ **Privacy protection** – finding **balance between privacy and utility**
- ▶ **Reproducibility and fitness-for-purpose** (= quality)
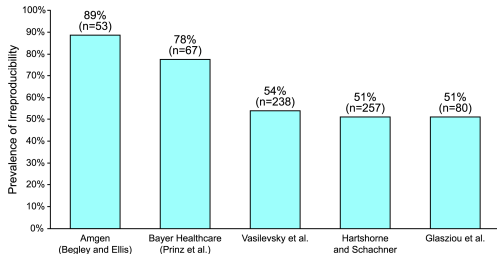- ▶ **Distributed responsibility** for data in health care

Fig 1. Studies reporting the prevalence of irreproducibility. Source: Begley and Ellis [6], Prinz et al. [7], Vasilevsky [8], Hartshorne and Schachner [9], and Glasziou et al. [9].

doi:10.1371/journal.pbio.1002165.g001

Potential Collaboration Areas

- ▶ Joint work on **data standardization**
  - ■ consensus building on models, vocabularies, mappings, etc. for different domains
- ▶ Development of **production infrastructure to get reliable structured health data**
  - ■ across various domains from primary sources in health care
  - ■ while making it manageable and beneficial for the sources (incentive models)
- ▶ **Standardization of provenance and its implementation**
  - ■ BBMRI-ERIC leads work in ISO TC276 on 23494 standard

MAKING NEW TREATMENTS POSSIBLE

THANK YOU!

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