

Biobanks and biomolecular resources: Outreach and linkages

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Human biological samples and biological resource are critically needed to address several of the upcoming grand challenges. The ageing population is resulting in an increase in certain diseases, increased health care expenditure for people in old age that place pressure on the sustainability and viability of healthcare systems. New threats to health have emerged, such as pandemics, bioterrorism as well as problems related to climate change. These challenges can only be addressed efficiently in globally coordinated initiatives.

The OECD Global Biological Resource Centres Network (GBRCN) should provide an international framework to sustainably provide access to biological samples and biomolecular resources in a quality controlled and secure manner. A pilot phase of the human-domain GBRCN that closely collaborates with a pilot of the microbial-domain GBRCN should demonstrate the feasibility of the implementation of the OECD best practice guidelines that define the common rules for GBRCN members.

In Europe, the pan-European Biobanking and Biomolecular Resources Research Infrastructure (BBMRI) implements the OECD best practice guidelines for biological resource centres and will become the European part of a human-domain GBRCN. BBMRI in its planning phase involves more than 260 institutions from 30 countries and will build on existing human biological sample collections, resources, technologies as well as expertise specifically complemented with innovative components. In order to facilitate international collaboration BBMRI developed the concept of expert centres that are linked to biobanks and perform the sample analysis under internationally standardized conditions. This allows analysis of samples in their country of origin and facilitates data integration from multinational studies. Furthermore, expert centres can also be established as public-private partnerships in the field of pre-competitive research.

The establishment of a pilot human-domain GBRCN that involves BBMRI as well as similar initiatives in other OECD Member States or enhanced engagement countries would be an important progress towards global harmonization of biobanking facilitating international collaborations in medical research.