

Biobanking

Introduction

Meaning

Biobank is a depository for biomaterials from a representative portion of a human population:

- The Biobank acts as a vault with intricate detailed information pertaining to the individuals from whom biological materials have been collected.
- Data collection and proper cataloging are essential components for the success components of a Biobank.

Types:

- Tissue bank–(i) Surgical tissues (ii) Transplant tissues
- Cancer/Tumor bank
- Cord blood/Stem cell bank
- Blood bank–Dried Blood Spots
- Body fluids–(i) Synovial (ii) Urine (iii) Sputum (iv) Buccal scrapings (v) Scrapings (vi) Sperm
- DNA/RNA bank
- Cornea bank Functional Division

Divisions:

- Cell and Molecular Biology
- Blood Center Blood Center
- Pathology
- Genetics
- Bioengineering
- Cryobiology
- Bioinformatics
- Ethics

Indications:

- Research work–biomedical experiments for a particular disease in a specific population.
- Routine work–health centers, hospitals, blood transfusion centers and Public/Private pathological laboratories.
- Epidemiological work–monitoring in susceptible populations after disease outbreak, poisoning and/or pollution.

Ethical/safety issues:

For tissue banking, freely given informed patient consent is mandatory. Patient consent forms needs to be upgraded from time upgraded from time-to-time following IRB regulations.^{1,2}

- Model Consent Form
- Confidentiality

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- Quality assurance checks necessary for right from planning, implementation, up to documentation and analysis.
- Safety is crucial

Biobank in India

NIMHANS: Brain Biobank
 ACTREC, Mumbai: cancer biobank

Repositories in India:

- Organ Retrieval Banking Organization (ORBO), AIIMS, New Delhi
- National Repository for Cell Lines/Hybridomas, NCCS, Pune
- Mycobacterial Repository, JALMA, Agra

Conclusion

India has a population of over a billion and is the world's largest democracy. India has a very high burden of communicable and non-communicable diseases. India has the means to make a modest start towards establishing a Biobank.

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None.

Conflicts of interest

Author declares that there is none of the conflicts.

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