National Biobank

Prelims: Science and technology- Current events of National & International importance.

Why in News?

Recently Minister for Science and Technology inaugurated the National Biobank' and India's own Longitudinal Population Data study at CSIR-IGIB (Institute of Genomics and Integrative Biology).

- A National Biobank is a ***large-scale repository*** designed to collect, store, and manage biological samples (like blood, tissues, DNA) and associated health data (clinical, lifestyle, genomic).
- **Launched under -** The Phenome India Project.
- **Objectives-** The Biobank will serve as the backbone of a nationwide cohort study, collecting comprehensive genomic, lifestyle.
- **Collection of data** - A long-term, data-rich study tracking the health trajectories of individuals over several years.
- Involves the collection of clinical data from 10,000 individuals across India.
- **Tailored version** - The Indian version is tailored to capture the country's unique diversity, across geography, ethnicity, and socio-economic backgrounds.
- **Supports early treatment** - This initiative will aid early diagnosis, improve therapeutic targeting.
- **Treatment of complex diseases** - In the fight against complex diseases such as diabetes, cancer, cardiovascular ailments, and rare genetic disorders.
- **Individualised treatment** - Indian may receive individualised treatment tailored to their genetic makeup, lifestyle, and environment.
- **Disease Recognition** - It will help scientists uncover disease patterns, gene-environment interactions, and response to therapies within the Indian context.
- **Self-reliance** – A bold step toward India's self-reliance in healthcare data.
- **Prospect** – It has the potential to evolve into a global benchmark like the UK Biobank.

Phenome India project

• **Launched by** -The Council of Scientific and Industrial Research (CSIR).
• **Launched on** - December 7, 2023.
• **Objective** - To develop India-specific risk prediction models for cardio-metabolic diseases, including diabetes, liver diseases, and cardiac diseases.
• **Participants** - Around 10,000 individuals—primarily CSIR employees, pensioners, and their spouses.
• **Data collected** -Clinical questionnaires, lifestyle and dietary habits, anthropometric measurements, imaging and scanning data, and extensive biochemical and molecular data.

Reference

PIB| National biobank

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