

BIO BANKS : SCIENCE & TECHNOLOGY

NEWS : Why precision medicine in India can't advance without biobank laws

WHAT'S IN THE NEWS ?

Precision medicine is bringing in a new era of <u>personalised healthcare</u>. The field began to take concrete shape when scientists were wrapping up the Human Genome Project. Since then, genomics has played a major role in the diagnosis and treatment of various cancers, chronic diseases, and immunological, cardiovascular, and liver diseases.

- **Precision Medicine:** Personalized healthcare, focusing on cancer, chronic diseases, and genetic disorders.
- Technological Advancements: Gene editing, mRNA therapeutics, and organ-on-chips are transforming diagnostics and treatments.
- India's Precision Medicine Market: Growing at 16% CAGR, projected to exceed \$5 billion by 2030.
- **Biobanks:** Essential for storing biological samples, enabling research into rare genetic disorders and potential therapies.
- **Biobanks in India:** 19 biobanks exist, supporting projects like Genome India and PRaGeD for genetic disorder research.
- Challenges in Biobanking Regulations: Fragmented laws in India concerning informed consent, data protection, and ethical use of samples.
- Need for Regulatory Reform: Stronger, globally-aligned biobanking laws are crucial for ethical practices and international collaboration.

Precision medicine: what is it? The goal of precision medicine is to target the right treatment(s) to the right patient at the right time, by taking into account differences in their individual disease, general health, genes, environment, and lifestyle. **Current Medicine Future Medicine** One Treatment Fits All More Personalised Diagnostics Blood, DNA, Urine Cancer patients with Therapy Cancer patients with Therapy tailored to different cancer profiles ea. colon cancer eg. colon cancer and Tissue Analysis



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