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# AI in Maternal Healthcare — GARBH-INi and the Promise of Precision Public Health

THE HINDU

26 March 2026

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## INTERVIEW ANGLE

*"AI-driven diagnostics can transform healthcare delivery at scale, but they also raise questions about data privacy, algorithmic bias, and over-reliance on technology in resource-poor settings. How should India navigate these tensions?"*

## WHY IN NEWS

The GARBH-INi initiative — South Asia's largest pregnancy cohort study — is deploying AI-driven diagnostics to address India's preterm birth crisis. India accounts for 3.6 million of the world's 15 million annual preterm births, ranking first globally in absolute numbers.

## The Editorial Argument

The Hindu editorial positions GARBH-INi as a model for how India should deploy AI in public health: not as a replacement for human healthcare workers but as a force multiplier for ASHAs and ANMs working in primary health centres. The editorial argues that India's AI healthcare strategy must prioritise equity over efficiency — ensuring technology reaches rural India, not just urban hospitals.

## India's Preterm Birth Crisis

Preterm birth (before 37 completed weeks of gestation) is the **leading cause of under-5 mortality worldwide**:

METRIC	DATA
Global preterm births	~15 million/year
India's preterm births	~3.6 million/year (24% of global total)
India's preterm rate	~13.3% of all births
India's annual births	~27 million
Neonatal Mortality Rate (NMR)	~20 per 1,000 live births (SRS 2022)
SDG 3.2 target	End preventable neonatal deaths by 2030; NMR below 12

India's preterm rate is driven by maternal malnutrition, anaemia (prevalence ~50% among pregnant women per NFHS-5), inadequate antenatal care, and early pregnancies.

## GARBH-INi – What Makes It Different

FEATURE	DETAIL
Full form	Group for Advanced Research on Birth outcomes — an interdisciplinary INitiative
Institution	THSTI, Faridabad (under DBT, Ministry of Science & Technology)
Cohort	~12,000 women enrolled
Biorepository	1.6 million biospecimens
Imaging data	1 million ultrasound images
AI applications	Pregnancy dating, preterm risk prediction, microbiome-based diagnostics

### Three AI Innovations

- AI pregnancy dating:** Traditional Last Menstrual Period (LMP) method is inaccurate for ~40% of Indian women. GARBH-INi's models use ultrasound measurements + biochemical markers for precise gestational age estimation.
- Microbiome-based prediction:** Machine learning identifies high-risk microbial signatures in vaginal and gut microbiome during early pregnancy — enabling targeted interventions months before preterm labour.
- Point-of-care rapid tests:** Paper-based tests that detect preterm birth biomarkers from a single drop of blood. Results in 15-20 minutes without laboratory equipment. Designed for ASHAs and ANMs at Primary Health Centres.

## SAHI Framework — AI Governance in Healthcare

The Ministry of Health has unveiled the SAHI (Strategy for AI in Healthcare for India) framework:

- AI-based diagnostic tools classified as **Class C medical devices** under CDSCO oversight
- **MegCan Care Project:** Free AI-driven cancer screening for 1 million individuals
- AI Pap smear screening: 94% accuracy, 380x faster than manual pathology
- Focus areas: radiology, pathology, maternal health, disease surveillance

## Ethical Concerns

The editorial raises critical questions:

- 1 **Data privacy:** 1.6 million biospecimens and 1 million ultrasound images constitute one of India’s largest health datasets. Who owns this data? What consent framework governs its use?
- 2 **Algorithmic bias:** AI models trained on urban hospital data may perform poorly in rural settings where maternal health profiles differ significantly. GARBH-INi must validate models across demographic and geographic populations.
- 3 **Digital divide:** Paper-based rapid tests are a welcome bridge, but AI-dependent diagnostics require connectivity, electricity, and trained operators — all scarce in rural PHCs.
- 4 **Over-reliance risk:** AI should augment clinical judgment, not replace it. ASHAs handling AI tools need training to interpret results, not just follow automated recommendations.

## India’s Maternal Health Architecture

PROGRAMME/SCHEME	PURPOSE
Janani Suraksha Yojana (JSY)	Cash incentives for institutional delivery
Pradhan Mantri Matru Vandana Yojana (PMMVY)	Rs 5,000 maternity benefit for first live birth
LaQshya	Labour room quality improvement in district hospitals
Surakshit Matritva Aashwasan (SUMAN)	Zero-cost assured delivery and newborn care
Anaemia Mukta Bharat	Iron-folic acid supplementation; target: reduce anaemia by 3% annually
POSHAN Abhiyaan	National Nutrition Mission; Rs 37,000 crore (2024-25 to 2028-29)

**UPSC RELEVANCE**

GARBH-INi full form, THSTI, DBT, WHO preterm definition, India's NMR, SDG 3.2, SAHI framework

*Maternal and child health policy; role of AI in public health delivery; governance of health data*

*AI applications in healthcare; ethical regulation of AI diagnostics; indigenisation of medical technology*

## ★ FACTS CORNER — KNOWLEDGEPEDIA

### GARBH-INI:

Full form: Group for Advanced Research on Birth outcomes — an interdisciplinary INitiative

Led by: THSTI, Faridabad (under DBT, Ministry of Science & Technology)

Cohort: ~12,000 women; 1.6 million biospecimens; 1 million ultrasound images

South Asia's largest pregnancy cohort study

AI tools: Pregnancy dating, microbiome risk prediction, paper-based rapid diagnostics

### INDIA'S PRETERM BIRTH DATA:

India ranks 1st globally in absolute preterm births: 3.6 million/year

Global preterm births: ~15 million/year; India's share: ~24%

Preterm: Birth before 37 completed weeks of gestation (WHO definition)

Leading cause of under-5 mortality worldwide

India's NMR: ~20 per 1,000 live births (SRS 2022)

### AI IN HEALTHCARE (INDIA):

SAHI: Strategy for AI in Healthcare for India (MoHFW framework)

AI cancer tools: Classified as Class C medical devices (CDSCO oversight)

MegCan Care: Free AI-driven cancer screening for 1 million people

AI Pap smear: 94% accuracy; 380x faster than manual screening

### OTHER RELEVANT FACTS:

THSTI: NCR Biotech Science Cluster, Faridabad — India's largest biotech research campus

NFHS-5 (2019-21): Anaemia in pregnant women ~52%

SDG 3.2: NMR below 12 per 1,000 live births by 2030

JSY: Janani Suraksha Yojana (conditional cash transfer for institutional delivery)

POSHAN Abhiyaan: National Nutrition Mission; Rs 37,000 crore budget

Sources: [The Hindu](#), [DBT](#), [PIB](#)



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