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ICMR Licenses Indigenous Anti-HPV and Vaccine Technologies

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SCIENCE & TECH

GS3

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ICMR Licenses Indigenous Anti-HPV and Vaccine Technologies

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✓ Every fact web-verified against primary sources

On July 21, 2026, the Indian Council of Medical Research (ICMR) licensed three home-grown biomedical technologies for commercialisation under its “Medical Innovations, Patent Mitra” initiative, spanning a targeted anti-HPV therapeutic and two next-generation enteric vaccines. The move showcases India’s push to convert publicly funded research into market-ready health products.

WHAT WAS LICENSED

The three technologies move from laboratory to industry through **technology transfer**, the licensing of publicly funded intellectual property to private manufacturers for scale-up and sale.

TECHNOLOGY	WHAT IT TARGETS	LICENSEE
SHetA2	First-in-class anti-HPV therapeutic for Cervical Intraepithelial Neoplasia (CIN)	Emcure Pharmaceuticals
Next-gen typhoid vaccine construct	<i>Salmonella</i> Typhi	Biological E
Recombinant enteric composition	<i>Salmonella</i> Typhi/Paratyphi and <i>Shigella</i>	Biological E

The two vaccine technologies originate from **ICMR-NIRBI, Kolkata** (the **National Institute of Research in Bacterial Infections**, formerly NICED), a premier centre for enteric-disease research.

SHETA2 AND THE CERVICAL CANCER FIGHT

The Disease Burden

Human papillomavirus (HPV) causes the overwhelming majority of **cervical cancer**, one of the highest-burden cancers among Indian women. **Cervical Intraepithelial Neoplasia (CIN)** refers to pre-cancerous changes in the cervix that, if untreated, can progress to invasive cancer. A **first-in-class targeted therapeutic** for CIN offers a treatment pathway that complements existing screening and HPV vaccination.

The Global Elimination Goal

The **WHO 90-70-90 strategy** frames cervical-cancer elimination as a public-health target for 2030:

- **90 percent** of girls fully vaccinated against HPV by age 15
- **70 percent** of women screened with a high-performance test by ages 35 and 45
- **90 percent** of women with disease receiving treatment

An indigenous therapeutic for pre-cancerous lesions strengthens the third pillar, treatment, within India.

THE ENTERIC VACCINES

Typhoid and related enteric fevers, caused by *Salmonella* Typhi and Paratyphi, and dysentery caused by *Shigella*, remain significant in regions with weak water and sanitation. A **recombinant** vaccine, one engineered using DNA-technology rather than whole pathogens, targeting multiple enteric organisms could broaden protection in a single product, valuable for a country with a large paediatric population.

WHY IT MATTERS

From Public Lab to Market

The **ICMR** is the apex biomedical research body in India, functioning under the **Ministry of Health and Family Welfare**. Licensing its innovations to companies such as **Emcure** and **Biological E** demonstrates a working **research-to-market** pipeline, ensuring taxpayer-funded science reaches patients.

Atmanirbhar Bharat in Health

India is already the **world's largest vaccine manufacturer by volume**, the so-called "pharmacy of the world". Home-grown therapeutics and vaccines reduce import dependence, lower costs, and build strategic self-reliance in health security under the **Atmanirbhar Bharat** vision.

UPSC RELEVANCE

GS Paper 3: Science and technology developments and their applications, **indigenisation** of technology, and issues relating to intellectual property and health.

- **Prelims pointers:** ICMR functions under the Ministry of Health and Family Welfare; HPV causes most cervical cancer; SHetA2 targets CIN; ICMR-NIRBI Kolkata was formerly NICED; the WHO cervical-cancer target is 90-70-90; India is the largest vaccine manufacturer by volume.
- **Mains question:** "Converting publicly funded biomedical research into affordable products is central to health self-reliance." Discuss with reference to ICMR's technology-transfer model. (**GS3, 250 words**)

★ FACTS CORNER, KNOWLEDGE PEDIA

ICMR: Founded in 1911 (as the Indian Research Fund Association, renamed 1949); apex body for biomedical research under the Health Ministry, headquartered in New Delhi.

HPV vaccine: India's first indigenous HPV vaccine, CERVAVAC (Serum Institute of India), was launched in 2022-23; SHetA2 is a therapeutic, not a vaccine.

Recombinant vaccine: Made by inserting a gene coding for an antigen into a host cell, avoiding use of the live pathogen.

Patent Mitra: ICMR initiative to guide innovators on intellectual property protection and commercialisation.

Enteric diseases: Illnesses of the intestinal tract, often water-borne; typhoid, paratyphoid and shigellosis are key examples.

Sources: Indian Council of Medical Research, ICMR-NIRBI, Kolkata, World Health Organization: Cervical Cancer

Source: ICMR Licenses Indigenous Anti-HPV and Vaccine Technologies — Ujyari.com | Free UPSC & State PCS Current Affairs

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