

2. Free Nationwide Hpv Vaccination- Science & Technology

India set to launch free nationwide HPV vaccination for adolescent girls. In a significant move toward women's health and preventive oncology, the Union Health Ministry is set to launch a nationwide Human Papillomavirus (HPV) vaccination programme. With March 4 observed as International HPV Awareness Day, this initiative aims to combat cervical cancer, which remains a leading cause of mortality among women in India.

1. Overview of the HPV Vaccination Programme

Primary Target- Adolescent girls aged 14 years.

Catch-up Category- A one-time catch-up dose for girls aged 9–14 years, followed by routine introduction for 9-year-olds.

Accessibility- The vaccine will be voluntary and free of cost, ensuring equitable access regardless of socio-economic status.

Administration Points- Exclusively at designated government health facilities, including-

1. Ayushman Arogya Mandirs (Primary Health Centres).
2. Community Health Centres (CHCs).
3. Sub-District and District Hospitals.
4. Government Medical Colleges

2. Strategic Rationale- Why Target Age 14?

Optimal Protection- Vaccines are most effective when administered before exposure to the virus. Global and Indian studies confirm that vaccinating at age 14 provides strong, durable protection before potential infection.

Immune Response- Younger adolescents typically generate a more robust antibody response compared to older individuals.

Single-Dose Efficacy- Current evidence supports the effectiveness of a single-dose regimen in this specific age group, a practice now implemented in over 90 countries.

3. Understanding Cervical Cancer and HPV

Feature	Details
Cervical Cancer	A growth of cells starting in the cervix (the lower part of the uterus connecting to the vagina).
Primary Cause	Persistent infection with high-risk strains of Human Papillomavirus (HPV).
Transmission	Passed through skin-to-skin contact, primarily via sexual contact affecting genitals, mouth, or throat.
Oncogenic Strains	Of the 100+ HPV varieties, Types 16 and 18 are responsible for nearly 70% of cervical cancers.
Screening Methods	Pap Test- Looks for abnormal cell changes. HPV Screening- Directly checks for the presence of the virus.

4. Comparative Analysis- Types of HPV Vaccines

Vaccine Type	Protection Scope	Strains Targeted
Bivalent (Cervarix)	Cervical Cancer	HPV 16, 18
Quadrivalent (Gardasil/Cervavac)	Cancer + Genital Warts	HPV 16, 18 (Cancer); 6, 11 (Warts)
Nonavalent (Gardasil 9)	Extended Protection	9 HPV strains

5. India's Indigenous Breakthrough- Cervavac

Nature- India's first indigenously developed Quadrivalent (qHPV) vaccine.

Technology- Based on VLP (Virus-Like Particles), which mimic the virus to trigger an immune response without causing infection.

Developer- Serum Institute of India (SII) in collaboration with the Department of Biotechnology (DBT).

Significance- Reduces dependence on expensive imports and aligns with the Atmanirbhar Bharat vision.

6. The Burden in India vs. WHO Targets

The Crisis- Cervical cancer is the second most common cancer in Indian women. India accounts for nearly one-fifth of global cases and one in every four global deaths due to the disease (~75,000 deaths annually).

The 90-70-90 WHO Global Strategy (by 2030)-

1. 90% Vaccination- Girls fully vaccinated with the HPV vaccine by age 15.
2. 70% Screening- Women screened with a high-performance test between ages 35-45.
3. 90% Treatment- Women identified with cervical disease receiving appropriate care.

7. Institutional Framework and Way Forward

NTAGI (National Technical Advisory Group on Immunisation)- The apex advisory body that recommended integrating the HPV vaccine into the Universal Immunisation Programme (UIP).

Procurement- Secured via Gavi, the Vaccine Alliance, ensuring global quality and cold-chain standards are met.

Strategic Needs-

1. Expand Screening- Increasing access to Pap and HPV tests for women in the 35-45 age bracket.
2. Coordinated Awareness- Utilizing ground-level health workers (ASHAs/ANMs) to dispel myths and encourage voluntary participation.
3. Socio-economic Parity- Bridging the gap in incidence rates between high and low-human development regions.

Source- <https://www.thehindu.com/sci-tech/health/india-set-to-launch-free-nationwide-hpv-vaccination-for-adolescent-girls/article70671112.ece>

