EDITORIAL

India's HPV vaccine rollout: from a welcome launch to an elimination strategy

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India's recent nationwide rollout of human papillomavirus (HPV) vaccination marks an important moment in cancer prevention. The national campaign, launched in February 2026, offers a single dose of quadrivalent HPV vaccine to eligible 14-year-old girls free of cost through government health facilities, with plans to continue vaccine availability through routine immunisation sessions after the initial campaign phase (1,2).

Prophylactic HPV vaccines are most effective when administered before exposure to infection, making early adolescent vaccination central to prevention. In its 2022 position paper, the World Health Organization (WHO) recommended a one- or two-dose schedule for girls aged 9–14 years, with HPV vaccination positioned as a foundational pillar of the global strategy to eliminate cervical cancer as a public health problem (3). Importantly, India has contributed directly to the evidence supporting a single-dose approach. A multicentre prospective cohort study from India reported that a single dose of quadrivalent HPV vaccine provided high protection against persistent HPV 16/18 infection at 10 years, with efficacy comparable to two- and three-dose schedules (4).

The programme is a landmark public health intervention, but introduction is not the same as impact. The public health value of HPV vaccination will depend on whether India can achieve high, equitable, and sustained coverage. Early reports from some states show that coverage can rise quickly with intensified mobilisation, but also that initial uptake may remain modest without persistent demand-generation, school engagement, parental confidence, and local monitoring (5). WHO's cervical cancer elimination strategy calls for 90% of girls to be fully vaccinated with HPV vaccine by age 15, 70% of women to be screened with a high-performance test by ages 35 and 45, and 90% of women with precancer or invasive cancer to receive appropriate treatment (6).

Second, delivery must be designed for equity. A facility-based campaign through government health institutions has advantages: it allows clinical supervision, adverse event preparedness, linkage with U-WIN portal, and standardised recording. However, adolescent vaccination differs from infant immunisation. Many eligible girls may not frequently visit health facilities. School-based mobilisation, coordination with education departments, community outreach, and adolescent health platforms will be essential. At the same time, a school-based approach alone may miss out-of-school girls, migrant families, girls in informal

settlements, and adolescents in socially marginalised communities. Evidence from low- and middle-income countries suggests that reaching out-of-school girls requires deliberate strategies, including community mapping, flexible session sites, and partnerships beyond the health sector (7).

Communication must be treated as a core intervention, not an afterthought. HPV vaccination has historically faced hesitancy rooted in low awareness, safety concerns, cost, stigma related to a sexually transmitted infection, and misinformation about fertility and sexual behaviour (8,9). The current rollout removes the barrier of cost in the public sector, but other barriers remain. Parents need simple, credible answers: why the vaccine is given in adolescence, why one dose is sufficient, what adverse events to expect, whether it affects fertility, and why vaccinated girls will still need screening later in life. It may be helpful if health-care providers, teachers, ASHA workers and health workers be equipped with harmonised messages. In vaccine programmes, confidence is often built through trusted intermediaries rather than central messaging alone.

Safety surveillance must be visible and transparent. The Government of India's operational guidance links vaccination sites to adverse events following immunisation management centres and requires parental consent (1). This is appropriate, but the broader trust environment also matters. India's earlier debates around HPV vaccination left a legacy of public concern. A transparent adverse event reporting and communication system, including rapid investigation and public explanation of serious reported events, will be critical. Silence during vaccine scares allows misinformation to fill the space. Trust is not only a prerequisite for coverage; it is an outcome of accountable programme implementation.

Lastly, HPV vaccination should not be allowed to displace the equally urgent need for cervical cancer screening and treatment. The benefits of vaccinating adolescent girls will be realised over decades. Adult women who are already at risk need screening now. Modelling studies for low- and middle-income countries shows that vaccination, screening, and treatment together are necessary to achieve elimination, with screening and treatment contributing substantially to near- and medium-term mortality reduction (10,11).

Monitoring the programme through an implementation science lens should be helpful, with coverage be tracked by state, district, urban-rural location, etc. Digital platforms such as U-WIN and e-VIN can support registration, recording, and logistics. Real-time dashboards, rapid-cycle corrective action, local microplanning, and independent coverage surveys will help distinguish between reported uptake and true population protection.

India's HPV vaccination rollout is therefore best understood not as an endpoint, but as the first visible step in a cervical cancer elimination pathway. The history of public health is full of interventions that were effective in trials but uneven in delivery. If India can pair vaccination with equity, transparency, and life-course cervical cancer prevention, this rollout could become one of the most consequential public health interventions for women's health in the coming decades.

Declaration Of Generative AI And AI Assisted Technologies In The Writing Process

The author has not used any generative AI/AI assisted technologies in the writing process.

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