HAPPI
PARTNERSHIP FOR ACCELERATING HPV VACCINATION

Evidence-based summary of lessons learned in HPV vaccine program implementation in LMICs:

EFFECTIVE DELIVERY

Over 15 years of vaccine introductions show that achieving equitable HPV vaccine coverage is possible across all income settings. Diverse program experiences provide key lessons that can maximize the chances of a successful HPV vaccination program.

SCHOOLS ARE THE BACKBONE OF HIGH COVERAGE PROGRAMS

School-based programs, although resource intensive to establish, show consistently higher coverage than facility-based programs. These programs, usually delivered through a time-limited, focused, campaign-style approach with a common period for vaccination, make it easier for young adolescents to participate by removing the need for parents to schedule and transport their child to a vaccination site. For adolescents and parents, school-based delivery can facilitate knowledge and understanding though information provided by teachers and immunizers as well as support from peers through shared experiences. Schools also facilitate identification and enumeration of the target population, while using an opt-out consent approach means all adolescents will be vaccinated at the same place and time unless the student or parent objects. By normalizing delivery of vaccines at schools, immunization against HPV becomes a routine health care service to protect young people against cancer.

AN ORGANIZED SYSTEM FACILITATES COURSE COMPLETION TO AVOID MISSED DOSES

Successful programs have organized systems to identify and immunize children who missed out on vaccination at school (either due to absenteeism or non-enrolment). Dedicated programs for out-of-school girls often leverage existing community health workers and established primary care facilities for outreach and service provision. Providing opportunities for those not vaccinated in schools can maximize uptake of initial and subsequent doses as needed. Countries that have switched to a single dose HPV vaccination schedule may simplify course completion and tracking of missed doses.

Wherever feasible and affordable, multiple opportunities for vaccination should be provided to target low coverage areas. To support this, HPV program data are most useful when it is made available to health care workers in a timely fashion during program implementation. Systems may include immunization registers (paper or electronic, leveraging systems built for routine vaccination where possible); record cards; standard procedures for identifying, notifying, and scheduling immunization for those who missed out; and reminders through school staff, community health workers, and community forums. For programs using a two-dose schedule, aiming to provide both doses within one calendar year may simplify communications and uptake and coverage estimates. Specific attention is required to manage timely course completion for those immune-compromised, including girls living with HIV.

COLLABORATE WITH THE NATIONAL IMMUNIZATION PROGRAM TO LEAD PROGRAMMING

Leadership and integration with existing National Immunization Program (NIP) systems and structures helps normalize HPV vaccines as a safe, preventive measure provided by the government to support health. Building strong partnerships early with the relevant health divisions (e.g., cancer prevention, women's health, adolescent health, non-communicable diseases), government departments (e.g., Finance, Education), and important community stakeholders (e.g., religious leaders, community organizations) ensures consistent positive messaging and builds community trust. Standard AEFI reporting should be in place for the HPV vaccine using routine monitoring to maintain confidence.

TIMELY MOBILIZATION RELIES ON TIMELY FUNDING

Preparation and sensitization are necessary to ensure the program is accepted from the beginning. Experience has shown that early coverage achieved is strongly predictive of subsequent coverage, reinforcing the importance of framing and delivering the vaccine positively and confidently from the outset. It is vital that funding reaches staff implementing the program early to facilitate the required preparatory activities and community mobilization. Delays can derail a program and lead to confusion and suboptimal vaccine uptake. Some countries have started using mobile phone-based payment systems to pay staff allowances to reduce bookkeeping burdens and delays.

DEFINE ELIGIBILITY CLEARLY

Ensure that community members, teachers, and health care workers know who is eligible for vaccination. A grade-based approach is simplest for school programs, given that grades may contain a range of ages. Where possible, document age at the point of vaccination to enable estimation of coverage per birth cohort as well as grade. Age-based eligibility for out-of-school girls or clinic-based programs may be clearer for communication and coverage estimation.

Communicate clearly when catch-up cohort vaccination is planned as part of the introduction, even if not delivered in the initial program period.

ACTIVELY MONITOR COVERAGE

Many countries have faced challenges with timely and accurate enumeration of HPV vaccine coverage. Reporting high vaccine uptake may build confidence in the program. Countries should consider implementing an immunization register leveraging existing systems or those developed for COVID-19 vaccines. Where no registers are available and administrative data is collated to provide estimates, countries should consider whether a population-based survey to verify the estimates and identify geographic areas or population groups who remain under-immunized is worthwhile. Programs should seek input from the national statistics office, and the Ministry of Education if relying on school-based delivery, and any relevant subnational unit to optimize the estimation of coverage. They should carefully consider the enumeration of the denominator population aligned with the delivery strategy.

Many programs have included a headcount of eligible girls by school as a part of microplanning and near in time to the date of vaccinations to inform estimates of the eligible population. Monitoring equity in coverage should be considered from the outset (e.g., by collecting variables relating to vulnerable population groups at the point of vaccination).

ENABLERS	
✓	Strong microplanning, including delineation of roles between sectors, plans for mop-ups, and clear plans for identifying/reaching out-of-school girls
✓	Coordination between MOH and MOE at all levels
✓	Consent processes for HPV vaccination that align with processes followed for other vaccines
✓	Clear eligibility criteria
✓	A process to help identify reluctant or hesitant parents and follow-up mechanisms directly to address their concerns
✓	Updated reporting tools with timely distribution and training on their use
✓	Healthcare workers (HCW) use of lists to calculate and track coverage
✓	Coordination between schools and HCWs, use of reminders, and vaccination cards to achieve and track dose completion
✓	If using a 2-dose schedule, reorient teachers for additional vaccination sessions at school
✓	Monitoring throughout vaccine introduction to identify pockets of low coverage and address issues
✓	Focused efforts to identify and vaccinate out-of-school girls including use of community health workers, mass media, and communications materials
✓	Timely distribution of funds/materials and good vaccine stock management
✓	Focused attention to cold chain through regular monitoring and recording and distribution to avoid delivery delays and ensure adequate transport and cold chain space at all levels; with proactive upgrade as necessary
✓	Opportunities to leverage village health teams
✓	Training for health care workers on data reporting and coverage calculation

OBSTACLES	
✗	Inadequate or delayed funding at local level
✗	Poor timing of vaccination sessions (e.g., school holidays, exam periods, rainy season)
✗	Staffing shortages (or strikes)
✗	Failure to adequately plan for non-school vaccination sessions
✗	Failure to streamline delivery of supplies, including inadequate transportation for vaccines to reach hard-to-reach areas, fuel shortages, and not utilizing trips for distribution of routine vaccines to include HPV vaccines
✗	Inadequate space, defective fridges, and no temperature monitoring or back-up power for cold storage
✗	Weak AEFI reporting system
✗	Non-availability or non-use of vaccination cards
✗	Suboptimal integration of HPV vaccination data into the country's paper-based and/or electric reporting systems

A comprehensive list of references can be found in a separate document, available here.

This brief summarizes new evidence building on a comprehensive review of HPV vaccine delivery experiences across 46 low- and middle-income countries, published in 2016 by PATH and the London School of Hygiene & Tropical Medicine. The updated brief was developed by the HPV Vaccine Acceleration Program Partners Initiative (HAPPI) Consortium and is freely available for use. The HAPPI Consortium is led by JSI in collaboration with our partners: the Clinton Health Access Initiative (CHAI), the International Vaccine Access Center (IVAC) at the Johns Hopkins Bloomberg School of Public Health, Jhpiego, and PATH.