

Advancing Integrated HPV Vaccination Delivery in Malawi: Policy Considerations for Sustainable and Equitable Scale-Up

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Recommendations

1. **The policy opportunity is to implement integrated HPV delivery in a sustainable, equitable way.** Malawi has successfully introduced HPV vaccination, but current delivery approaches do not consistently reach out-of-school and underserved girls under routine conditions.
2. **Integration is a strategic option that requires clear design and system readiness.** Integrated delivery can improve access and efficiency, but only when supported by adequate workforce capacity, coordination, logistics, and national guidance.
3. **School-based delivery should remain the foundation, with targeted approaches to reach those left behind.** Schools are the most efficient platform for reaching eligible girls, but outreach and community-linked strategies are essential to improve equity.
4. **Sustainable scale-up depends on stronger systems to support the delivery models.** Progress will require investment in data systems, microplanning, supervision, and financing aligned with routine service delivery.

Summary

Malawi continues to face one of the highest cervical cancer burdens globally, making HPV vaccination a critical component of national prevention efforts. Since introducing the HPV vaccine nationally in 2019, Malawi has made important progress in expanding access for adolescent girls. However, sustaining high and equitable coverage under routine delivery conditions remains a persistent challenge, particularly for girls who are out of school, absent during vaccination activities, or living in hard-to-reach communities. While school-based delivery has proven to be an effective mechanism for reaching large numbers of girls, implementation experience has highlighted the need for more continuous and integrated delivery approaches capable of reducing missed opportunities for vaccination and strengthening continuity of access.

In response, VillageReach launched the INTEGRATE HPV implementation research initiative in partnership with the Malawi Ministry of Health to design, implement, and evaluate integrated approaches to HPV vaccination delivery in Machinga and Mchinji districts. The initiative tested approaches that strengthened coordination across schools, Youth-Friendly Health Services (YFHS), HIV teen clubs, community outreach systems, and routine immunization services. The intervention also emphasized community-designed solutions, improved coordination between teachers and health workers, and stronger referral pathways across service delivery platforms.

Findings from the implementation research demonstrated that integrated HPV delivery approaches are feasible and can strengthen vaccination uptake when supported through coordinated planning, routinized delivery systems, and strong collaboration between the health and education sectors. Schools emerged as the most effective platform for reaching eligible girls, particularly when teachers and health workers jointly planned and implemented vaccination activities. Vaccinations in schools within intervention catchment areas increased 192.8% from baseline to endline, compared to a 3% decrease in comparison areas over the same period. These findings suggest that strengthening coordination between the health and education sectors, coupled with integrated planning and delivery, can improve HPV vaccination coverage and reach among eligible girls.

While the implementation research demonstrated impressive gains in the school-based setting over the short timeframe of June 2025 to December 2025, the set of findings reinforced that school-based delivery alone is insufficient for reaching all eligible populations. During the endline period, for instance, 5.5% of all vaccinations took place at facilities and 7.8% were administered through outreach. This underscores stakeholders' emphasis on the importance of complementary community outreach and facility-based delivery approaches for reaching girls who are absent, out of school, or otherwise missed through school-based activities. The implementation research also demonstrated that integrated approaches can strengthen broader adolescent health engagement. Linking HPV vaccination with Youth-Friendly Health Services, HIV teen clubs, and other adolescent platforms created additional opportunities for counselling, referral, and follow-up vaccination. Respondents described integrated delivery as more convenient and efficient for adolescents and caregivers, while also strengthening coordination between previously disconnected service platforms.

The findings highlighted several persistent system challenges that continue to affect integrated HPV delivery, including inconsistent integration practices across facilities, workforce and supervision constraints, transportation and outreach limitations, gaps in community awareness, and weak referral and data tracking systems. Stakeholders also raised important policy considerations regarding age alignment between HPV vaccination eligibility and YFHS platforms, noting that HPV vaccination targets 9-year-old girls while many adolescent service platforms begin at age 10.

Overall, the findings suggest that Malawi's central policy challenge is no longer whether integrated HPV delivery is feasible, but how integrated delivery can be more consistently institutionalized and routinized within existing systems. Strengthening integrated HPV delivery will require strong operational guidance, clear coordination mechanisms across sectors, improved referral and monitoring systems, sustainable financing for outreach and supervision, and continued investment in community engagement and adolescent-friendly service delivery platforms.

Background and Policy Context

Malawi's cervical cancer burden remains among the highest in the world, with an estimated age-standardized incidence rate exceeding 70.9 cases per 100,000 women and mortality rates reflecting significant gaps in prevention and early detection. HPV vaccination is widely recognized as one of the most effective interventions for reducing cervical cancer

incidence, and global strategies emphasize achieving high coverage among adolescent girls as a key pathway toward elimination.

Malawi introduced HPV vaccination nationally in 2019, initially targeting 9-year-old girls through a delivery model combining school-based campaigns, community outreach, and facility-based. Following introduction, eligibility was expanded to include girls aged 9–14 years to accelerate coverage and reach cohorts that had missed previous vaccination opportunities. Recently, Malawi has begun transitioning back toward a single-age cohort strategy focused on 9-year-old girls, with the rationale that older girls have presumably been reached through prior vaccination efforts. The national delivery model, anchored in school-based campaigns supplemented by outreach and facility-based services, has proven effective in reaching enrolled girls but continues to leave gaps among out-of-school and hard-to-reach populations. Early implementation achieved strong coverage, with administrative estimates reaching 80% for first dose and 74% for final dose coverage in 2020, before declining sharply during the COVID-19 period. Although coverage later rebounded, 2024 estimates still show gaps in uptake and completion, with 54% first dose coverage and 21% final dose coverage reported through administrative data systems. Recent population-based survey data suggest broader uptake than administrative reporting alone captures. According to the 2024 Malawi Demographic and Health Survey, 58% of girls aged 15–17 reported receiving at least one HPV vaccine dose, with 89% receiving vaccination through schools. These findings reinforce the central role of school-based delivery while also highlighting the need for more continuous and integrated delivery approaches to improve equitable access and completion.

In 2021, the vaccine was incorporated into the country's Extended Programme on Immunisation (EPI) schedule, which enabled girls to get the vaccine in school during quarterly campaign days, or in communities or health facilities. Despite strong national commitment, current policy frameworks provide limited guidance on how HPV vaccination should be delivered under routine conditions or how different delivery platforms should be coordinated. This has resulted in variability in implementation and continued reliance on campaign-style approaches that are resource-intensive and difficult to sustain. As Malawi shifts toward a single-age cohort of 9-year-old girls, there is a critical policy window to reassess delivery approaches and identify models that can support long-term sustainability.

The Policy Challenge: Sustainability and Equity in HPV Delivery

The central policy challenge facing Malawi is how to transition from campaign-driven delivery toward routinized, sustainable systems that can achieve equitable coverage. School-based delivery remains the most efficient platform for reaching enrolled girls, but it is inherently limited in its ability to reach those who are not in school or absent on vaccination days.

Evidence from Malawi and other low- and middle-income countries indicates that reaching out-of-school girls requires complementary strategies, including community outreach, facility-based services, and active identification mechanisms. However, these approaches are often more resource-intensive and operationally complex, requiring additional investments in transport, community engagement, and supervision. This creates a policy tension between efficiency and equity. Highly efficient delivery models may achieve high coverage among easily reachable populations but leave behind those most at risk, while more equitable approaches may require greater system investment and coordination.

Malawi's reliance on campaign-style delivery raises questions about long-term sustainability. Campaigns require periodic intensification of resources, including workforce mobilization, logistics, and financing, which may not be feasible in the context of constrained health system resources and evolving donor support.

Integration as a Policy Option

Integration of HPV vaccination with existing service delivery platforms presents a strategic opportunity to strengthen both coverage and system efficiency in Malawi. By leveraging established platforms such as school health programs, HIV teen clubs, routine outreach services, and adolescent health services, integrated delivery can expand access to vaccination while reducing missed opportunities. This approach enables the health system to reach adolescents through multiple service entry points, increasing the likelihood that eligible girls are identified and vaccinated in a timely manner.

Integration can also enhance the experience of care for communities by reducing the need for multiple service visits and lowering indirect costs associated with accessing care, including travel time and lost income. From a system perspective, coordinated delivery offers the potential for more efficient use of limited resources by aligning planning, supervision, and implementation efforts across programs. This is particularly important in Malawi's context, where optimizing the use of existing service delivery platforms is essential to achieving sustainable scale.

Furthermore, integration aligns with national and global priorities to strengthen adolescent health systems and embed HPV vaccination within routine service delivery. Positioning HPV vaccination within a broader package of adolescent health services can support continuity of care and reinforce linkages between immunization, education, and community-based platforms. Taken together, these considerations highlight the potential for integration to contribute to improved coverage, enhanced service delivery efficiency, and stronger system performance when implemented within a strong policy framework.

Evidence on Integrated HPV Delivery in Malawi

Multi-Platform Delivery Strengthens Reach and Continuity: Evidence from the implementation experience and interviews with Ministry of Health stakeholder at endline indicate that integrated HPV vaccination delivery is both feasible and well aligned with Malawi's evolving service delivery priorities. Across intervention sites, integration enabled the use of multiple service delivery platforms to reach adolescents more consistently, supporting a shift away from episodic, campaign-style delivery toward more continuous and routinized access to HPV vaccination. School-linked delivery platforms remain central to this approach, offering an efficient mechanism to reach large numbers of eligible girls through established coordination with the education sector. At the same time, integration has expanded the ability of the health system to reach girls beyond the school setting by utilizing outreach services and facility-based platforms, including youth-friendly health services, to provide additional opportunities for vaccination.

Complementary Platforms Improve System Responsiveness: This multi-platform approach reflects a key strength of integrated delivery. Rather than relying on a single delivery channel, integration allows different platforms to serve complementary roles within the national strategy. School-based delivery provides scale and efficiency, while outreach services extend reach into communities where girls may be out of school or less consistently engaged. Facility-based services, particularly those designed for adolescents and adolescents living with HIV, offer an important pathway for follow-up and catch-up vaccination. Together, these platforms create a more flexible and responsive delivery system that is better positioned to identify and reach eligible girls across diverse contexts.

Integration Expands Equity Through Multiple Entry Points: From an equity perspective, integration offers a clear pathway to expand access to underserved populations. Evidence from Malawi and comparable settings highlights that girls who are out of school, living in rural areas, or otherwise disconnected from formal systems are unlikely to be

reached through standalone school-based approaches. Integrated delivery models, particularly those that incorporate outreach and community-based strategies, provide additional entry points for identifying and vaccinating these populations. In practice, this has enabled health facilities to move beyond single-day or single-location delivery models and adopt more adaptive approaches that better reflect community realities.

Integration Supports Routine Delivery and Adolescent Health Systems: Integration also supports Malawi's broader policy shift toward strengthening routine service delivery and adolescent health systems. By embedding HPV vaccination within existing platforms, integration contributes to continuity of care and reinforces linkages between services. This is particularly important in the context of the transition to a single-age cohort, where consistent identification and follow-up of eligible girls becomes increasingly important. Integrated delivery enables HPV vaccination to be delivered as part of an ongoing system rather than as a standalone intervention, supporting both sustainability and system strengthening objectives.

Integration Improves Efficiency and Resource Use: Finally, integration presents an opportunity to improve the overall efficiency and effectiveness of service delivery. By aligning activities such as microplanning, supervision, transport, and community engagement across programs, integrated approaches can make more effective use of limited resources. Stakeholder perspectives suggest that this coordinated approach is particularly valuable in resource-constrained settings, where maximizing the impact of existing systems is essential. As Malawi continues to refine its HPV vaccination strategy, integration offers a practical and policy-relevant pathway to strengthen coverage, improve equity, and support the transition toward sustainable, routine delivery.

Policy Direction and Recommendations

The evidence from implementation experience and stakeholder perspectives highlights a clear set of policy actions to support the effective integration of HPV vaccination within Malawi's health system. Integration has been demonstrated to be feasible in the context of the present study and beyond, but the central challenge remains of how it can be institutionalized in a way that strengthens routine delivery, improves coordination, and ensures equitable access.

1. **There is a need to formalize integration through a cross-sectoral policy framework that explicitly positions HPV vaccination as part of routine adolescent health service delivery.** HPV vaccination should be formally embedded within sexual and reproductive health and rights services, youth-friendly health services, and school health packages through updates to national HPV, EPI, adolescent health, and school health guidance. Moving HPV vaccination from episodic campaigns toward a routine adolescent service will require aligning policies across programs and ensuring that integration is reflected in national strategies, subnational implementation guidance, and annual planning processes. Stakeholders emphasized that continuity of delivery is critical, underscoring the importance of sustaining HPV vaccination as an ongoing service rather than a periodic activity.

2. **Policy guidance on the scope and standards for integrated adolescent service delivery is key,** including which services should routinely be delivered alongside HPV vaccination, how services should be sequenced during outreach activities, and what counselling, consent, and privacy standards should be maintained across delivery platforms. Standardized operational guidance for integrated service packages would help reduce variability across geographic areas and support more consistent implementation nationally. In practice, this could include establishing minimum service availability expectations, such as routine school outreach schedules,

facility-based catch-up opportunities for missed girls, and standardized procedures for communication with adolescents, caregivers, and schools prior to vaccination activities.

3. **Clearer definition of roles and coordination mechanisms across cadres is also essential.** Policy guidance moving beyond broad collaboration language and into explicitly define operational responsibilities for EPI staff, sexual and reproductive health providers, health surveillance assistants, nurses, clinicians, teachers, and school administrators can promote successful integration. This could include authorizing non-EPI providers to deliver HPV counselling and referrals during adolescent service encounters and incorporating HPV vaccination competencies into pre-service and in-service curricula for relevant cadres. At the subnational level, integration could be operationalized through joint planning meetings between EPI coordinators, adolescent health teams, and education officials, with shared service delivery calendars and outreach targets.

4. **Sustainable financing and logistics systems will be critical to institutionalizing integrated delivery.** Stakeholder feedback suggests current delivery models remain highly dependent on partner-supported outreach and per diem-driven implementation. Policymakers should therefore consider establishing ring-fenced operational budgets for integrated adolescent outreach at the subnational level, including dedicated funding lines for fuel, transport maintenance, supervision, and social mobilization activities. In addition, integration should be incorporated into routine subnational planning and resource allocation processes rather than financed as a standalone campaign activity.

5. **Institutionalizing capacity building and supportive supervision will also be essential for maintaining quality at scale.** Rather than relying on one-time HPV trainings tied to campaign periods, integration will require routine refresher training incorporated into existing supervision and mentorship structures. This includes training teachers, health surveillance assistants, nurses, and community mobilizers on adolescent communication, HPV counselling, referral pathways, and integrated service delivery procedures. Policymakers should also consider integrating HPV indicators into supportive supervision checklists and quality assurance reviews to ensure consistency across sites.

6. **Integrated data and monitoring systems are needed to enable tracking of coverage, continuity of care, and missed vaccination opportunities across service delivery platforms.** This includes incorporating HPV vaccination indicators into routine monitoring tools used across EPI, youth-friendly health services, school health programs, and outreach services, while improving interoperability and information sharing between these systems. Policymakers can consider establishing standardized mechanisms for identifying and tracking missed girls across platforms –school registers, referral slips, adolescent health records, and community tracing systems can support this important follow-up. Strengthening integrated data systems also improves the ability to identify missed opportunities for vaccination during adolescent service encounters, monitor access gaps across groups and geographic areas, and support targeted outreach and microplanning efforts. Improved denominator verification and subnational-level coverage analysis will be important to ensure that integrated delivery strategies are effectively reaching intended populations and reducing inequities in coverage.

7. **Community engagement and demand generation are critical components to improving uptake of integrated HPV vaccination.** Evidence from stakeholders indicates that misinformation, uncertainty about eligibility, and lack of prior communication remain major barriers to uptake. Policymakers might consider establishing a structured national communication strategy for HPV vaccination that includes standardized messaging, mandatory pre-outreach sensitization activities, and engagement of trusted community actors such as chiefs,

teachers, youth leaders, and religious leaders. Integration into existing community engagement platforms, including youth clubs and school meetings, could further strengthen awareness and trust.

8. **Integration efforts should also address alignment between HPV vaccination eligibility and existing adolescent service delivery structures.** As Malawi transitions to a single-age cohort of 9-year-old girls for HPV vaccination, policymakers will need to consider how younger adolescents are incorporated into integrated service delivery platforms, particularly where youth-friendly health services are currently oriented toward adolescents aged 10 years and older. Stakeholder perspectives highlighted the importance of ensuring that integrated services remain age-appropriate and acceptable to communities, particularly given concerns that linking HPV vaccination too closely with services associated with older adolescents may contribute to parental discomfort or stigma for younger girls. Policymakers may therefore consider adapting adolescent service delivery models to better accommodate younger adolescents, including establishing differentiated service sessions, age-appropriate counselling approaches, and clear guidance on which components of integrated adolescent service packages are appropriate for different age groups. Aligning HPV vaccination policy with adolescent service delivery structures will be important to ensuring that integration strengthens access while maintaining community trust and acceptability.

9. **Formalizing coordination between the health and education sectors can promote successful, sustained integration.** This may include guidelines/tools for joint planning, development of standardized school-based consent procedures, protocols for parent communication prior to vaccination activities, and designated processes for recording and reporting vaccinated and missed girls. Policymakers may also consider establishing minimum standards for youth-friendly service delivery environments during school outreach activities to improve adolescent comfort and acceptability.

Taken together, these recommendations highlight that effective integration in Malawi requires coordinated policy action across multiple levels of the health system. By formalizing integration within national frameworks, strengthening system capacity, and aligning delivery across sectors, Malawi can build on its progress in HPV vaccination and move toward more sustainable and equitable coverage.

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