DEVELOPING A NATIONAL CERVICAL CANCER ELIMINATION ACTION PLAN FOR KENYA: LANDSCAPE ANALYSIS

June 2025

THINK WELL

TABLE OF CONTENTS

CONTRIBUTIONS

This landscape analysis was conducted by ThinkWell, with guidance from the National Vaccine and Immunization Program and National Cancer Control Program. The authors consisted of:

- Valerian Mwenda
- Maureen Kangee
- Rachel Archer
- Laura Boonstoppel
- Anne Musuva
- Felix Murira

We extend our thanks to the stakeholders whose valuable insights contributed to this analysis.

Image credit: Front cover photo - Karel Prinsloo/Gavi, the Vaccine Alliance

EXECUTIVE SUMMARY

Kenya is falling short of key global targets to progress towards cervical cancer elimination. The implementation of three key evidence-based interventions remains suboptimal: vaccination against human papillomavirus (HPV), screening with a high-precision test, and prompt treatment of both precancer and invasive cancer. To address this, ThinkWell is supporting Kenya's Ministry of Health in developing a comprehensive National Cervical Cancer Elimination Action Plan, aiming to identify cost-effective and equitable strategies to expand cervical cancer prevention coverage. While Kenya's policies acknowledge the importance of cervical cancer prevention, these must be operationalized into practical action at both national and county levels.

This report presents a landscape analysis conducted by ThinkWell to inform the development of Kenya's National Cervical Cancer Elimination Action Plan. The analysis comprehensively assesses the current status of cervical cancer prevention efforts, pinpointing crucial programmatic and financing gaps that impede progress. We drew insights from a variety of sources, including existing literature, policy documents, government data, individual stakeholder consultations, a co-creation workshop, and school health summit. The analysis offers a detailed picture of the elimination status, highlighting key stakeholders, their priorities, and the key programmatic and financing gaps hindering progress.

Our analysis uncovered 36 priority gaps across the three cervical cancer elimination interventions, grouped under six key themes: leadership and policy; service delivery; health informatics, technologies, and supply chain; health workforce; education, information, and awareness; and financing. Notably, crucial policy gaps include the delayed transition to a single-dose HPV vaccine and the shift from an already narrow multi-age cohort to a single-age cohort, despite persistently low vaccination coverage. Other high-priority gaps include but are not limited to: limited flexibility in vaccine and screening delivery strategies, limited screening availability at primary care facilities, inadequate community mobilization to counter misinformation, and an overreliance on donor funding amidst declining support for health programs. We conclude by identifying specific evidence-generation needs necessary and advocacy strategies to fill key gaps.

ACRONYMS

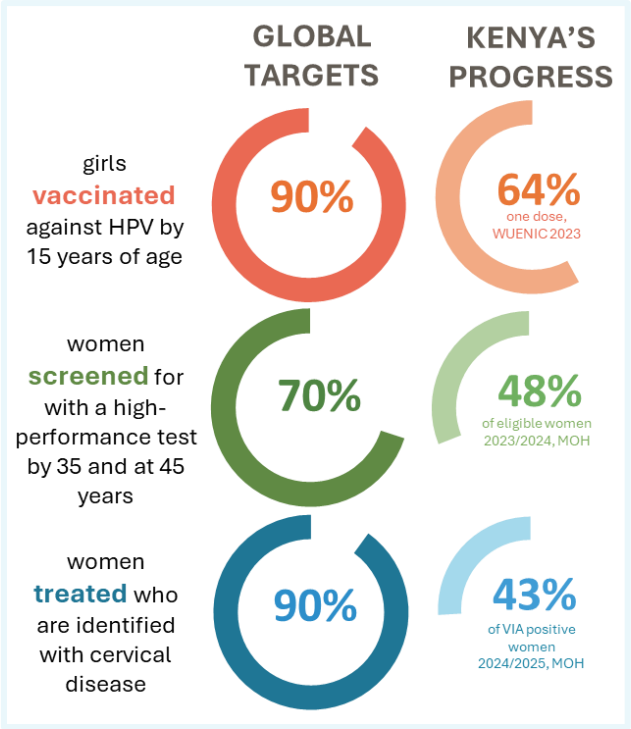
ACS	American Cancer Society
AKU-COE for MCH	Agha Khan University Center of Excellence for Maternal Child Health
CHAI	Clinton Health Access Initiative
COG	Council of Governors
DNA	Deoxyribonucleic Acid
Gavi	Gavi, the Vaccine Alliance
HCW	Health Care Workers
HERU	Health Economics Research Unit
HENNET	Health NGOs Network
IRCK	Inter-Religious Council of Kenya
KCCB	Kenya Conference of Catholic Bishops
KDHS	Kenya Demographic and Health Survey
KEMRI	Kenya Medical Research Institute
KEMSA	Kenya Medical Supplies Authority
KEPRICON	Kenya Pediatric Research Consortium
KENCO	Kenyan Network of Cancer Organizations
KHHFA	Kenya Harmonized Health Facility Assessment
KII	Key informant interview
KMLTTB	Kenya Medical Laboratory Technicians and Technologists Board
KOGS	Kenya Obstetrical and Gynecological Society
KPA	Kenya Pediatric Association
LEEP	Loop Electrosurgical Excision Procedure
LMIS	Logistics Management Information Systems
M&E	Monitoring and Evaluation
MDACs	Ministries, Departments, Agencies, and Counties
MoE	Ministry of Education
MoH	Ministry of Health
NASCOP	National AIDS and STI Control Program
NCCEAP	National Cervical Cancer Elimination Action Plan
NCCK	National Council of Churches of Kenya
NCCP	National Cancer Control Program
NCCS	National Cancer Control Strategy
NCD	Non-communicable disease
NCI-K	National Cancer Institute of Kenya
NCK	Nursing Council of Kenya
NGT	Nominal Group Technique
NIPG	National Immunization Policy Guidelines
NVIP	National Vaccine and Immunization Program
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
RUPHA	Rural Private Health Association
SAGAs	Semi-Autonomous Government Agencies
SAGE	Strategic Advisory Group of Experts on Immunization
SUPKEM	Supreme Council of Kenya Muslims
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
VIA	Visual Inspection with Acetic Acid
WB	World Bank
WHO	World Health Organization

INTRODUCTION

Cervical cancer is the leading cause of cancer deaths among women in Kenya, despite several cost-effective interventions existing to reduce the burden of cervical cancer. With an estimated 5,845 new cases and 3,591 deaths in 2022, cervical cancer represents 12.2% of all cancer deaths among women.[1] The age standardized incidence rate for cervical cancer in Kenya is 32.8 per 100,000. The burden of cervical cancer can be greatly reduced through implementation of three key evidence-based interventions: vaccination against human papillomavirus (HPV), screening with a high-precision test (HPV testing) and prompt treatment of both precancer and invasive cancer.[2] For the past two decades, Kenya has implemented various cervical cancer control programs, yet uptake has remained suboptimal.

Kenya is behind on the global cervical cancer elimination targets. Spearheaded by the World Health Organization (WHO), a global cervical cancer elimination strategy was launched in 2020, with the aim of achieving incidence reduction to less than 4 per 100,000 by 2100.[3] For countries to set themselves on the path to elimination, interim targets were set for achievement by 2030. Based on the current estimates, Kenya is not on course to attain these targets and therefore may miss the trajectory that would have put the country on the path to elimination (See **Figure 1**).

Figure 1: *Status of cervical cancer elimination global interim targets for 2030*



ThinkWell is implementing a project to accelerate policy changes and investments to support Kenya in progressing on its cervical cancer prevention goals. The importance of improving cervical cancer prevention is well-recognized in Kenya's key policies and strategies. Nevertheless, the strategy and policy stop at high-level guidance, and need to be translated into practical action plans at national and county level. Therefore, ThinkWell is supporting the Ministry of Health to develop a National Cervical Cancer Elimination Action Plan.

To support the development of Kenya's National Cervical Cancer Elimination Action Plan, this landscape analysis seeks to assess the status of implementation of the cervical cancer elimination strategies in Kenya and identify gaps hindering progress towards the 2030 elimination interim targets. This landscape analysis gives a picture of cervical cancer elimination status, both programmatic and from a financing perspective, and identifies, summarizes, and prioritizes key challenges and gaps. It identifies the key players in Kenya's cervical cancer elimination program, the gaps they are working to fill, and their priorities. It also identifies the evidence needed to identify solutions for the various gaps. The landscape analysis will be used to ensure the National Cervical Cancer Elimination Action Plan focusses on addressing the most critical gaps, it will be used to inform an evidence generation strategy, and to identify solutions to address the challenges identified.

OBJECTIVE

The objective of this landscape analysis is to appraise the current status of policy guidance, implementation, key actors and financing of cervical cancer elimination efforts in Kenya to guide the development of a National Cervical Cancer Elimination Action Plan. It summarizes progress and gaps and identifies opportunities for strengthening and accelerating progress towards the 2030 elimination goals. More specifically, the analysis seeks to:

- Assess the performance of the national cervical cancer program, and financing landscape, in terms of the three elimination interventions.
- Identify and prioritize key programmatic and financing gaps to attaining cervical cancer elimination in Kenya.
- Pinpoint underlying factors hindering key policy changes, such as switching to a single-dose HPV schedule.
- Understand the key actors in the cervical cancer elimination, their priorities, needs, expectations and potential conflicts
- Examine existing and planned initiatives to address the barriers to scaling of cervical cancer elimination interventions in Kenya
- Identify evidence gaps that can accelerating progress towards the 2030 targets, and eventual elimination of cervical cancer in Kenya.

METHODS

OVERVIEW

We conducted an analysis of Kenya's cervical cancer elimination landscape using various methods and data sources (Table 1). This included a review of the existing literature, policy documents, government data sources, as well as individual stakeholder consultation, a group consultation in the form of a co-creation workshop, and a school health summit on enhancing school health interventions. Information gathered from these data sources were thematically analyzed to identify key programmatic and financial gaps, and these gaps were structured around the three elimination pillars: HPV vaccination, screening, and treatment of pre-cancerous and invasive cervical cancer. Identified gaps were then prioritized according to how often and how pertinently issues arose during the workshop and consultations. We then analyzed the prioritized gaps and mapped them against the stakeholders involved in addressing them. We also identified specific evidence-generation needs necessary to fill gaps.

Table 1: *Methods and data sources used for the landscape analysis*

Methods & data sources	Purpose
Desk review of published literature, grey literature, and financial documentation on cervical cancer elimination in Kenya	To assess key gaps, and determine the evidence base around root causes and the impact of those gaps.
Review of policy documents and Ministry of Health (MoH)	To assess program performance and implementation, identify key perspectives and challenges, lay out the policy landscape supporting cervical cancer elimination

databases and documentation	efforts, and identify potential remaining policy gaps based on the performance gaps.
Stakeholder mapping	To identify the relevant stakeholders active and relevant to cervical cancer elimination efforts in Kenya, to prioritize them for the key informant interviews and co-creation workshop participation, and to develop a stakeholder engagement framework.
Key informant interviews	To understand stakeholders involvement in cervical cancer elimination efforts, their needs and expectations, and to identify insights on programmatic gaps.
Co-creation workshop	To review the implementation status of cervical cancer elimination, identify and prioritize gaps, understand root causes behind gaps, and identify potential opportunities and evidence gaps
School health summit	To deliver a presentation on ways to optimize HPV vaccination, such as accelerating a switch to a single-dose HPV vaccination schedule, and expanding the age cohort, and gain programmatic insights from delegates.

DESK REVIEW

We conducted a scoping review of published and grey literature on the implementation status, facilitators, barriers, gaps to HPV vaccination, cervical cancer screening, and treatment, within the Kenyan context. The search was guided by the following question, "What is the current status of implementation, financing, facilitators, barriers, gaps and opportunities to implementation of HPV vaccination, cervical cancer screening and treatment in Kenya?" To answer the question, a systematic search was conducted on PubMed, Medline, and Cochrane Library. Boolean operators were used to combine the following key terms: 'Implementation OR Status OR Barriers OR facilitators OR gaps OR challenges' AND 'cervical cancer OR cervical dysplasia OR cervical malignancies OR cervical neoplasia OR human papillomavirus OR HPV' AND 'vaccination OR screening OR testing OR triaging OR precancer treatment OR precancerous lesion treatment OR treatment OR control OR elimination' AND 'Kenya'. We limited our search to the previous five years. A total of 54 articles were deemed eligible and were processed for the review.

REVIEW OF MOH POLICIES AND DATABASES

Through the National Vaccine and Immunization Program (NVIP) and the National Cancer Control Program (NCCP), we gathered all relevant policy documents related to cervical cancer elimination in Kenya, and reviewed MoH databases. The primary documents reviewed were the National Cancer Control Strategy 2023-2027 and the National Immunization Policy Guidelines 2023, as well as the Cervical Cancer Screening Guidelines 2024. We also reviewed documents with information on priority health system building blocks vital to cervical cancer elimination, including the Health Facility Census 2023, the Harmonized Health Facility Assessment 2018, Breast and Cervical Cancer Investment Case 2022, and the Health Financing Progress Matrix assessment Kenya 2023. Other key financing comments reviewed include the Health Sector Transition Roadmap (2022-2030), the national health accounts, the Kenya Health Financing Strategy 2020-2030, and the National and County Budget Analysis Report 2023/2024. We also examined MoH databases to understand programmatic progress, and financial documentation on immunization, cervical cancer prevention, and wider primary health care in Kenya. The main national database reviewed was the Kenya Health Information System that depicted programmatic data such as,

the uptake of HPV vaccine, the screening coverage rate, screening test positivity rate, treatment rate, and coverage of screening for the target population.

STAKEHOLDER MAPPING

In discussion with the respective MoH agencies, a stakeholder mapping exercise was conducted, identifying all key actors in the cervical cancer elimination implementation continuum in the country. The identified stakeholders included government ministries, agencies, departments and counties (MDACs), academic institutions, civil society, youth representatives, parents' associations, religious bodies, and development partners.

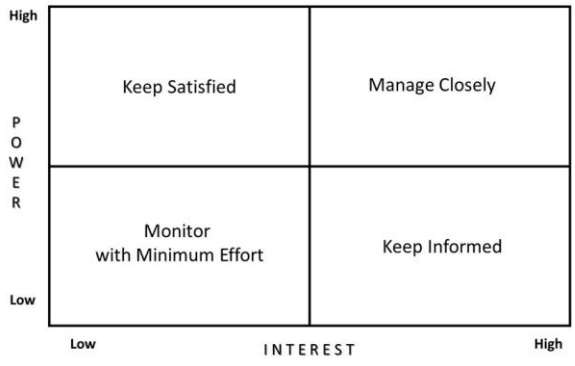
The specific stakeholders were identified based on the following criteria:

- Organizations already active in implementation or advocacy on any of the three pillars of cervical cancer elimination.
- Organizations not currently actively engaged on cervical cancer elimination strategies but are key to the success of potential interventions.
- Institutions that have their main mandates around HPV vaccination, advocacy, sustainability and financing.

From an initial longlist of 118 institutions, in discussion with the NVIP and NCCP, 79 stakeholders were selected for intensive engagement throughout the development of the National Cervical Cancer Elimination Action Plan (Annex 1: Subsequently, a targeted group of 36 out of these stakeholders were invited to participate in a co-creation workshop for the development of the plan, with 25 in attendance. To adequately prepare for the co-creation workshop, 7 of the 79 shortlisted stakeholders were prioritized for key informant interviews. Key informant interviews are still ongoing with other priority stakeholders who did not attend the workshop.

We used the Power-Interest Grid to categorize stakeholders for the development of a stakeholder engagement framework. We categorized them based on their level of power and their level of interest, as per **Figure 2**. This was used by ThinkWell, NCCP, and NVIP to develop a robust stakeholders engagement framework (see **Annex 2**: Stakeholder engagement summary).

Figure 2: *Power-Interest Grid*



KEY INFORMANT INTERVIEWS

Following discussions with NVIP and NCCP, selected stakeholders were prioritized for key informant interviews. An interview guide was developed to determine stakeholders agendas, priorities, strides made, their perceptions on key programmatic gaps, and their plans going forward (See **Annex 3**: Interview guide Interviews were conducted in person or via Microsoft Teams with 7 stakeholders in March 2025. Consultations with some stakeholders are still pending. Additional perspectives were collected informally from stakeholders during several meetings as outlined below:

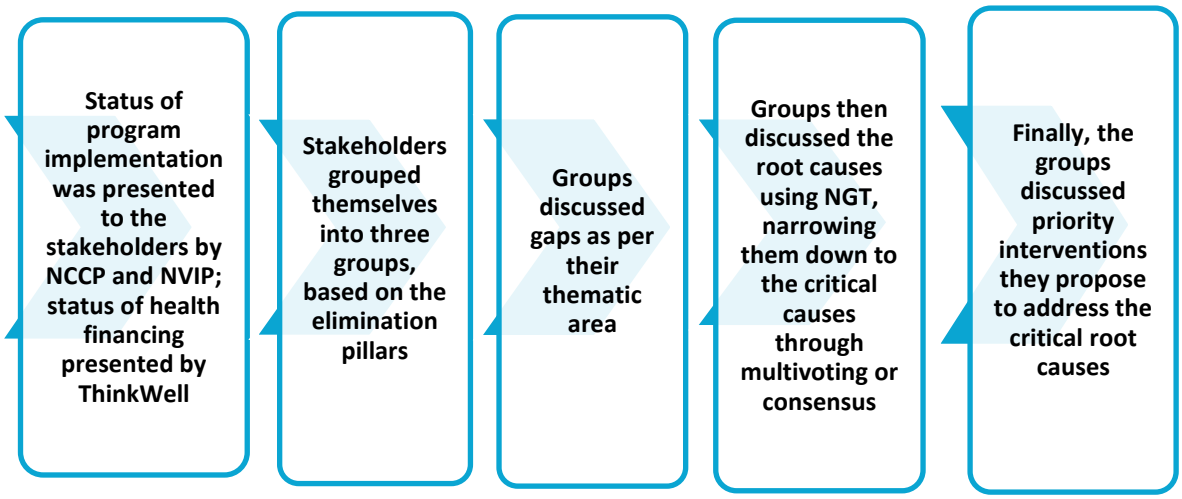
- Introductory meetings with heads of NCCP and NVIP
- National Cervical Cancer Awareness Month, January 2025.
- Health NGOs Network (HENNET) dissemination of Gavi transition monitoring

– Kenya Pediatric Research Consortium (Keprecon) stakeholders' engagement meeting on championing evidence-based advocacy

CO-CREATION WORKSHOP

A co-creation workshop was convened to pinpoint key programmatic and financial gaps, root causes behind gaps, evidence-generation needs, and set priorities for the strategic development of a National Cervical Cancer Action Plan. The workshop, organized between 18-21 March 2025, brought together key stakeholder groups to reflect on intervention implementation, uncover obstacles and their origins, and define priority actions to overcome them. The workshop participant list is detailed in **Annex 1**: The co-creation workshop adopted the Nominal-Group Technique (NGT) to facilitate discussion on gaps and root-cause analysis, based on the three cervical cancer elimination pillars and structured around the six-health system building blocks (see **Figure 3**).

Figure 3: *Information generation pathway during the co-creation workshop*



SCHOOL HEALTH SUMMIT

ThinkWell was invited to deliver a presentation at the first ever Kenya School Health Summit on ways to optimize HPV vaccination and gained key programmatic insights from delegates on what is inhibiting the transition to a single-dose schedule. The summit, held between May 12-14 2025 in Mombasa County, sought to enhance school health interventions by raising national awareness, promoting best and cost-effective practices, and fostering collaboration, all in support of universal health coverage. The event was attended by health and education government stakeholders, private sector representatives, and development partners. ThinkWell led the discussion on policy priorities affecting HPV vaccination in the country, including the switch to a one-dose schedule, targeting 9–14-year-old girls as opposed to a single cohort and deploying an innovative mix of school-based, health facility and community outreaches.

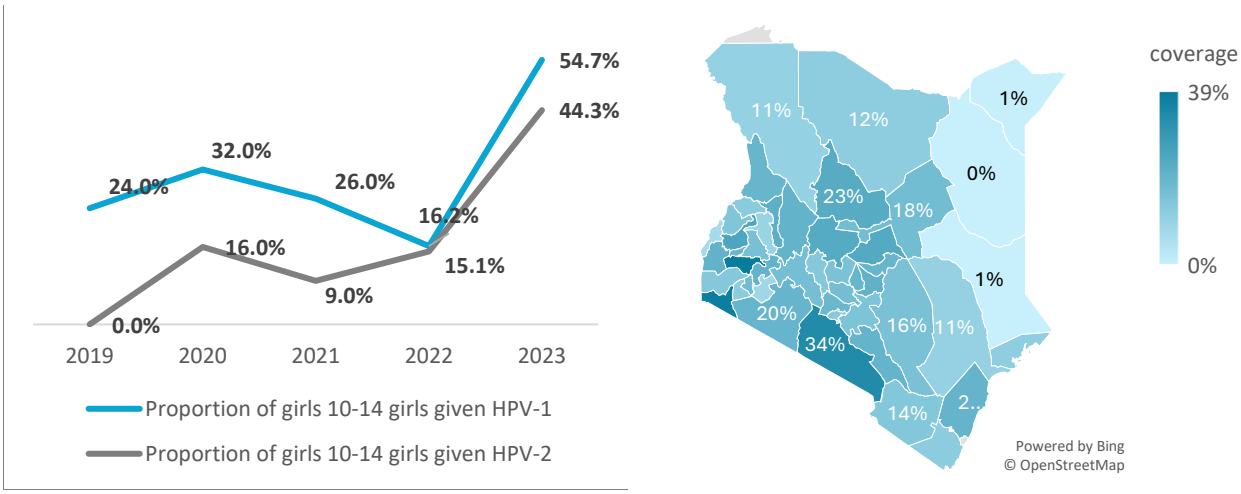
FINDINGS

PILLAR 1: HPV VACCINATION

Programmatic progress

The HPV vaccination program has been struggling with low coverage since first introduced in 2019. The HPV vaccination program was first rolled out in October 2019, following a pilot in Kitui County in 2015. The vaccine is targeted to 10-year-old girls with catch-up vaccination for those up to 14 years old, and has been primary delivered through facility-based and school-based strategies**.** However, since the rollout, vaccination coverage has been low, due to a combination of factors such as COVID-19 pandemic disruptions, vaccine hesitancy and misinformation, and logistical and programmatic challenges. As of 2023, the proportion of girls aged 10-14 given one dose was 54.7%, and 44.3% for two doses (see **Figure 4**).[4] While the performance of the program shows improvement from shocks observed during the COVID-19 pandemic, coverage is still far below the targeted 90%. Further, the national HPV vaccination program is characterized by regional disparities in uptake (see **Figure 4**) and counties in the North-Eastern region have extremely low coverage (0-1%). Access to the vaccine is not only hampered by geographical barriers, but education and socioeconomic status. These disparities mean that certain girls are less protected against HPV.

Figure 4: *HPV vaccination performance since 2019 and HPV-1 coverage by county, 2024 (Source: NVIP and WUENIC)*



Identified gaps

Leadership and policy

- **Delay in switching to a single-dose HPV vaccination schedule (see Box *1*),** which has overwhelmingly demonstrated to be able to save costs which can be used to save additional lives.
- **NVIP policy guidance targets 10–14-year-olds, which is a narrower cohort than the WHO recommends, and are even planning to transition back to single-aged cohort**, despite WHO guidance for a broader 9–14-year-old cohort to be targeted when coverage is below 90%.
- **Lack of public confidence in the government** leads to apathy in the uptake of interventions.
- **National Immunization Guidelines 2023 and the National Cancer Control Strategy (NCCS) 2023-2027 lack the specific activities that would actualize targets,** for instance how to address supply and demand-side barriers, in order to achieve 90% vaccination coverage.

- **NVIP policy guidance prescribes facility-based and school-based approaches, leaving out-of-school girls uncovered.** Stakeholders during the school health summit were unified on the need for a primarily school-based approach supplemented by both facility-based vaccination and targeted community outreaches, however this is yet to be realized in policy.
- **Inadequate coordination between stakeholders** including government ministries, agencies, programs, non-state actors.

Box 1: Local evidence has shown that a single-dose schedule is effective and would generate cost savings within the country, however the switch has been delayed until the third quarter of 2025.

There is ample local evidence that switching to a one-dose HPV vaccination schedule is sufficient and cost saving.[5,6] A single-dose schedule simplifies logistics, reduce costs, makes it easier to reach more individuals. Although Strategic Advisory Group of Experts on Immunization (SAGE) has put forward their recommendation to switch to a single-dose schedule in December 2022, it has taken the Kenya National Immunization Technical Advisory Group (KENITAG) until January 2025 to put forward their recommendation for a single-dose HPV vaccination schedule in Kenya, and the policy change is yet to be realized.

While the switch has received full backing by the MoH leadership, government stakeholders at the recent school health summit attributed this delay to planning and logistical factors. By the time the KENITAG recommendation come through, the NVIP, responsible for coordinating the switch, had already committed to several other key initiatives. This includes the introduction of the typhoid conjugate vaccine (TCV), as well as a once-every-three-years supplementary campaign for the measles-rubella vaccine. The ongoing program interventions, coupled with an ongoing application to Gavi, resulted in the implementation of the HPV one-dose switch to be rescheduled to the third quarter of 2025. ThinkWell is actively engaging with the NVIP through regular meetings, and is developing targeted advocacy materials to ensure the switch remains a top priority and to prevent further postponements. Switching to one-dose can help address outstanding coverage and financial barriers, and this delay in policy change is hindering progress.

Service delivery

- **Limited access to health facilities in rural and marginalized communities** particularly in arid and semi-arid land counties. Long distances from facilities hamper the completion of HPV vaccination.[7]
- **School-based delivery misses girls who are out of school** during the age targeted for vaccination by the national program. In 2022, more than half of the counties in Kenya reported primary school attendance rates below 90% for girls.[8] National immunization guidelines are not explicitly clear on the approaches to ensure girls who are out of school are reached.
- **No catch-up vaccination campaigns have been organized since 2021 for a multi-age cohort**, depriving older adolescents of critical opportunities for primary prevention.
- **Lack of flexibility in vaccine delivery options** with a strong focus on routine facility-based and routine school-based approaches.
- **High drop rates between first dose to second dose,** though this issue should be addressed when Kenya switches to a one-dose regimen (see **Box *1***).
- **Community outreaches are not adequately implemented** to cover hard-to-reach populations and funding for outreach is scarce.
- **Insufficient integration of the HPV vaccine into existing service delivery points**, such as the HPV vaccination not being routinely offered within existing school health programs. At the same time,

there is inadequate implementation of school health programs that incorporate HPV vaccine provision across the country.

- **Private schools are reluctant to deliver HPV vaccines due to parents' refusal.** These schools tend to be more sensitive to parental concerns, including vaccinations.
- **Facilities have limited immunization infrastructure to deliver vaccines,** for example limited cold chain capacity and space.
- **Environmental factors disrupt service delivery** such as extreme weather and natural calamities**.**

Health Informatics, supply chain and technologies

- **Shortfalls in monitoring and evaluation,** such as poor documentation of outreach and school-based delivery and weaknesses in systems for accurately aggregating this data.
- **HPV vaccination not prioritized in facility monitoring and evaluation** leading to inefficient tracking of uptake.
- **Denominator data quality is a specific challenge for the HPV vaccination target group**. Insufficient attention has been paid to accurately identifying the size of the cohort of girls aged 10-14 years, and data is not disaggregated by education status.
- **Private hospitals' HPV vaccinations are not included in the government's immunization records.**
- **Weak Logistics Management Information Systems (LMIS) for vaccines**, hindering efficient supply chain management of the HPV vaccine.
- **Data is not routinely used to inform policy making and programmatic decisions.**
- **Shortcomings in supply chain management** including poor vaccine forecasting which leads to regular stockouts and expiries.

Health workforce

- **Entrenched healthcare human resource challenges not addressed** including high-turnover, heavy workload, brain drain, burnout, industrial action, and delayed renumeration.
- **HPV vaccination is not offered beyond regular facility opening hours** limiting girls' access to HPV vaccination after school hours.
- **HPV vaccination being deprioritized by healthcare workers (HCW)** due to incentives given to deliver other vaccines and services e.g. allowances given during polio and measles campaigns.
- **HCW occasionally show hesitancy to offer HPV vaccine** due to inconsistent stock availability and poor planning, leading to uncertainty about supply.

Education, information, and awareness

- **Inadequate community mobilization efforts for HPV vaccination.** Misinformation and disinformation sparked and continues to fuel HPV vaccine hesitancy, and there has been insufficient countering of this information.
- **Lack of sustained, meaningful engagement with the school authorities and parents**
- **Inadequate engagement with the youth that empowers them to get vaccinated against HPV**
- **Misconceptions held by parents and guardians** about HPV vaccination and early sexual activity.[9]
- **A general lack of parental support for HPV vaccination**. The primary driver of parental hesitancy towards HPV vaccination is a lack of information. Although often flagged as a potential concern for vaccine hesitancy, religious groups have not posed demand-related barriers.
- **No specifics on approaches to demand generation in immunization policy guidelines**, for instance, how to reach out of school girls, and how to communicate with teachers and parents.

- **Men are not adequately involved in HPV vaccination efforts**. Fathers, for instance, have a vital role in their children's health decisions, and their understanding and support are crucial for improving HPV vaccine uptake

Financing

- **Overdependence on donors while Kenya is currently set to transition from Gavi support** (See **Box 2**). Although the government has committed to fully take over procurement of all its HPV vaccines by 2030, a plan on how counties will finance the distribution, maintain cold chain equipment, and procure other supplies is missing.
- **There is an absence of a well-defined plan on how resources will be allocated post-Gavi transition.** Inadequate financial planning is a large threat to the country's preparedness for the Gavi transition. There has been no documented monitoring of transition strategy and partners have not been successful in advocating for the national government effective preparation for Gavi transition.
- **Domestic funding for immunization has faced severe cuts**. While government funding for the immunization program rose from 21% in 2017 to 50% in 2022, the budget was slashed by more than a half in 2022.[10]
- **Immunization guidelines do not include cost information or research mobilization plans** and the NCCS does not break down the specific costs for cervical cancer elimination interventions. It is therefore difficult to estimate and plan for the resources needed for cervical cancer elimination efforts.
- **See Box 3 for cross-cutting financial gaps across all three pillars.**

Box 2: Kenya has heavily relied on external donors to finance the HPV vaccination program

Gavi has been the primary provider of HPV vaccines in Kenya since the program was first introduced. Their support has also included covering 80% of the start-up costs of HPV vaccine introduction and provided substantial financial assistance to strengthen the immunization system. Currently, the United States government's planned funding cut to Gavi jeopardizes their HPV vaccination support. Further, in 2030, the country is expected to transition to fully financing its vaccination program, yet significant concerns remain regarding the preparedness and financial readiness of both national and county governments to fully absorb the costs of the program. There has also been delayed remittance of national treasury vaccine funds to Gavi.

Box 3: Cross-cutting financial gaps for all pillars: vaccination, screening and treatment

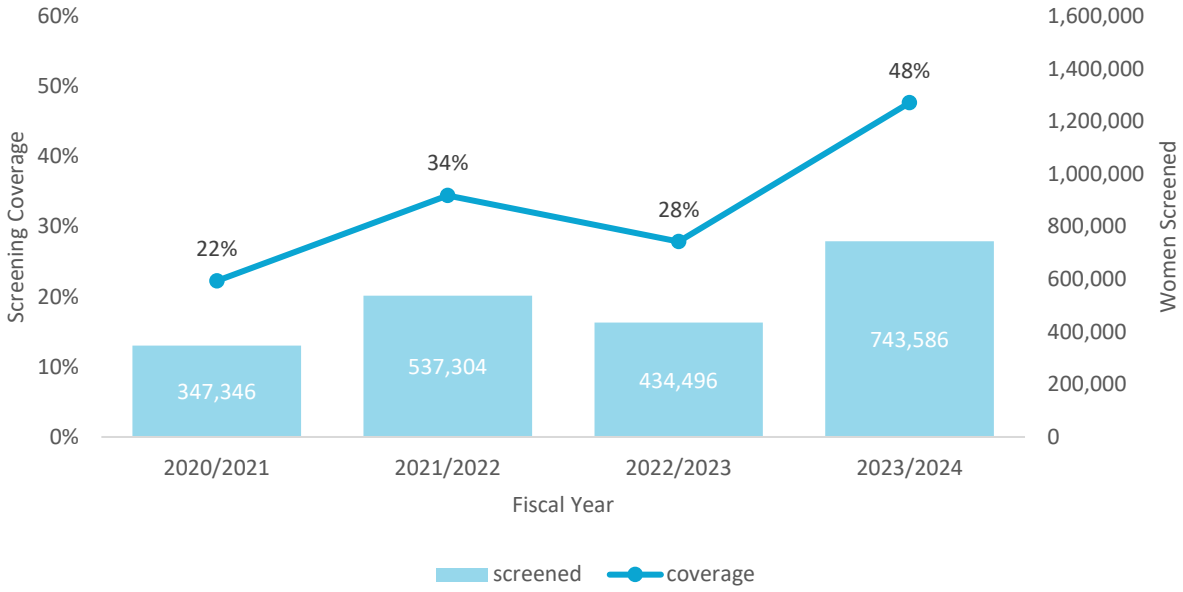
- **Key cervical cancer interventions have been largely funded by donors, which is now decreasing.** Cuts to United States foreign assistance has not only halted directly-supported initiatives through United States Agency for International Development (USAID) and the President's Emergency Plan for AIDS Relief (PEPFAR), but jeopardizes Global Fund to Fight AIDS, Tuberculosis and Malaria, and Gavi support which the United States has indirectly supported.[11] Development assistance from European governments is also set to decrease.
- **There is currently no tracking of the implementation of the Health Sector Transition Roadmap (2022-2030).**
- **The limited fiscal space for health, coupled with inadequate budget revenue resources, means that the cervical cancer program is underfunded.** Kenya servicing significant debt 70% of Gross Domestic Product (GDP) and different health priorities are competing for limited resources.
- **Insufficient budgeting data and tools to support financial advocacy efforts**
- **Social health insurance enrollment is low and funding for cervical cancer screening and care under insurance is minimal**. There is insufficient financing by the government for the Primary Healthcare (PHC) Fund that falls under the Social Health Authority. Only 15% of the required PHC Fund budget has been allocated for the 2026-2027 fiscal year.
- **A lack of evidence-based resource prioritization** leads to inefficient and wasteful use of available financial resources.
- **Government's health financing lacks adequate accountability mechanisms**.
- **Minimal investment in prevention and promotion at county level**. Counties allocated only 7.5% of their total health budgets to preventive and promotive health services in the fiscal year 2023/2024.
- **Counties face issues in formulating and executing budgets,** this is due to bottlenecks in budget approval, misalignment with planning at national level, poor costing due to lack of technical expertise.
- **Counties use historical budgeting rather than performance and value-based budgeting** leading to the continuation of outdated or inefficient resource allocation.

PILLAR 2: SCREENING

Programmatic progress

The coverage of cervical cancer screening in Kenya is low and varies greatly among counties. An opportunistic screening and treatment program, based on visual inspection with acetic acid (VIA) and treatment with cryotherapy has been implemented since 2011, yet has faced low coverage, inadequate quality assurance and limited health system capacity for scaling.[12-13]Although screening uptake has been increasing, the coverage is still below the 70% needed for the country to be on the path to elimination (see **Figure 5**). In the Kenya Harmonized Health Facility Assessment (KHHFA) survey 2018, only 22% of all facilities sampled offered cervical cancer screening, with only 4% offering HPV testing, the recommended screening modality of first choice.[14] Most primary level facilities do not offer cervical cancer screening, requiring women to seek out higher-level facilities for this service. Disparities are also evident between counties in screening coverage, with the share of the screening target reached in 2023/2024 ranging from 1% in Wajir and Madera County to 167% in Migori county (coverage over 100% is owed to denominator issues). Counties with the biggest gaps in service readiness and human resources also have the lowest uptake of cervical cancer screening.

Figure 5: *Cervical cancer screening coverage trends, Kenya, 2020-2024*



In addition, most women are screened using VIA, while more accurate HPV testing uptake has remained low over the last four years. Despite HPV testing being recommended since 2018, HPV testing still accounted for less than 5% of all women screened over the last five years. Two pilot studies were conducted in 2019-2020 revealed several issues. These included long turnaround times for integrating HPV testing with existing GeneXpert platforms, a lack of robust sample referral mechanisms and results communication for national labs, and a high loss to follow-up in the screening program. Even though facilities are eligible for reimbursement for HPV testing, screening coverage remains very low. The Cervical Cancer Screening Guidelines 2024 recommend HPV testing as the primary screening method, encourage self-sample collection and a endorse a single-visit approach for "screen-and-treat" strategies to be within the same visit.

Identified gaps

Leadership and policy

- **Political commitment for cervical screening is insufficient** and it is not prioritized at both policy and implementation level.
- **NCCS 2023-2027 lacks specific activities to address programmatic gaps and actualize targets.**
- **Limited coordination between implementation partners and government stakeholders** poses a key obstacle to screening uptake.[15]

Service delivery

- **Access to quality cervical cancer screening services is inadequate**, stemming from insufficient facility infrastructure, utilities and trained staff.

- **Limited access to health facilities in rural and marginalized communities** and long distance to screening sites are barriers to screening uptake.[16,17] Meanwhile, policies recommend only offering cervical cancer screening at facilities, and outreach is not considered as a strategy to increase uptake.
- **There is low uptake of HPV Deoxyribonucleic Acid (DNA) testing** which is more effective at detecting high-risk strains of HPV.
- **The healthcare system struggles to effectively guide patients and track their samples**, as samples are not easily linked to the patient's medical records.
- **The screening program has quality concerns,** the VIA positivity at less than 5% has been consistently below recommended thresholds nationally**.**

Health workforce

- **There is inadequate skilled human resources to deliver screening**, particularly limited human resources working in laboratories.
- **Entrenched healthcare human resource challenges not addressed** including high-turnover, heavy workload, brain drain, burnout, industrial action, and delayed renumeration.
- **Insufficient provider knowledge about HPV can lead to inaccurate counselling on HPV screening for women.** Some healthcare and community workers also feel discomfort with the discussing the topic.

Health Informatics, supply chain and technologies

- **Data is not routinely used to inform policy making and programmatic decisions.**
- **Limited insight into the HPV diagnostic capabilities and available resources within the county**, e.g. no capacity mapping has been carried out at the county level.
- **Health information systems do not track critical indicators such as the single-visit approach rate** e.g. the proportion of women that were screened and received immediate treatment in a single visit.
- **Stockouts of HPV diagnostic kits** impact the ability to perform testing.
- **No cross-county learning platforms** to strengthen diagnostics capacity.

Education, information, and awareness

- **Low awareness across the target populations of the importance of HPV screening**. This is due to a poor understanding of the link between HPV and cervical cancer among the target population, impacting how people understand test results and treatment advice.
- **Inadequate community mobilization efforts for screening** and there is a lack of countering of misinformation such as screening leading to infertility.[18]
- **There is fear and anxiety surrounding HPV screening among the target population.** Women fear pain and embarrassment of getting screened, male providers, treatment side effects, and abnormal results.[19,20]

Financing

- **No clear value proposition on investing in cervical screening**
- **Overdependence on donors for screening among women living with HIV**
- **Substantial financial barriers for women to access screening,** e.g. transport costs, childcare costs, lost wages, user fees.[2420]
- **See Box 3 for cross-cutting financial gaps** across all three pillars.

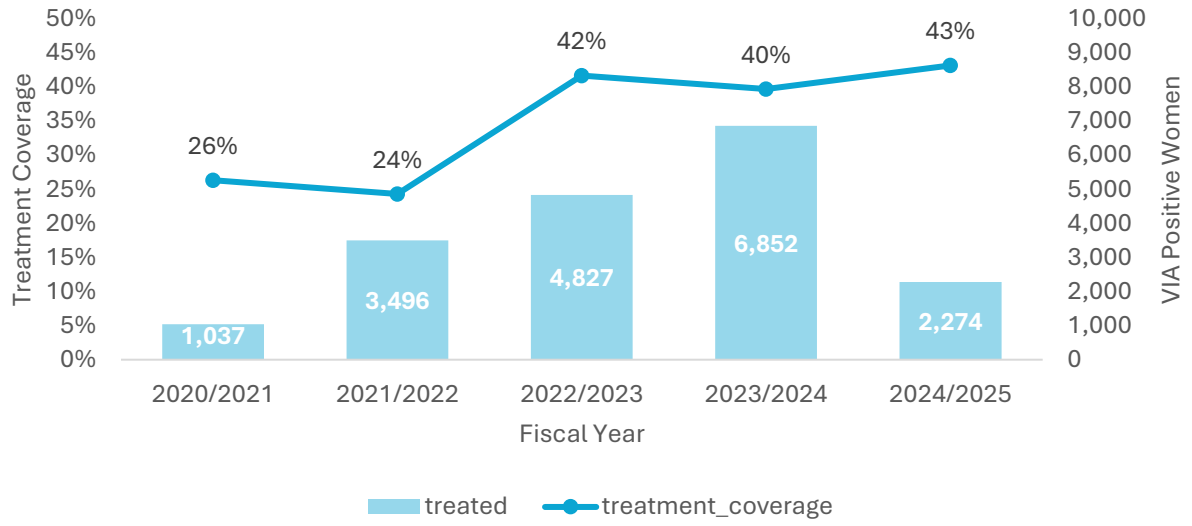
PILLAR 3: TREATMENT

Programmatic progress

Treatment for precancerous lesions and invasive cancer is characterized by low coverage and high loss-to-follow-up for eligible women. While the MoH has trained 6,000 HCW, distributed over 1,000 thermal ablation and Loop Electrosurgical Excision Procedure (LEEP) equipment between 2021 and 2022, more than half of treatment-eligible women (VIA positive after primary screening or triaging) do not receive treatment. Though, the trend analysis shows improvement in the last five years (see **Figure 6**). Similar to screening and HPV vaccination, treatment coverage also shows county-level disparities, with counties with low screening coverage also performing poorer in treating for cervical precancer. The percentage of VIA positive women receiving treatment varies significantly across the counties, ranging from 0% to 106% in 2023-2024. Since 2021, the Ministry of Health, in partnership with Clinton Health Access Initiative (CHAI) has been implementing a program of transition of thermal ablation, in addition to increasing capacity for LEEP and colposcopy. However, lack of sustained skills mentorship has made utilization of the equipment suboptimal.

Identified gaps

Figure 6: *Cervical pre-cancer treatment coverage trends, Kenya, 2020-2024*



Leadership and policy

- **Ineffective coordination and collaboration of the stakeholders** to support quality and comprehensive cervical cancer diagnosis and treatment at National level, County level, Semi-Autonomous Government Agencies (SAGAs), MDAs, as well as non-state actors such as civil society groups.
- **Political commitment for cervical screening and treatment is insufficient,** and cervical cancer treatment is not prioritized both at policy and implementation level.
- **NCCS 2023-2027 lacks the specific activities to realize targets.**
- **National cancer treatment protocols are outdated.** The protocols are meant to be updated every 5 years, but the latest version is from 2019.

Service delivery

- **Limited infrastructural capacity of comprehensive specialized facilities offering diagnostic, treatment, and palliative care for cervical cancer**. There is also a shortage of funding to build this capacity.
- **Inadequate supply, distribution, and maintenance of equipment** for cancer diagnosis and treatment
- **Limited dissemination of cervical cancer diagnosis and treatment guidelines and policy to the healthcare providers**
- **Poor tracking of loss-to-follow-up** when referred for further diagnosis and treatment
- **Weak referral and linkages for cervical cancer diagnosis and treatment.**
- **Patients lost to follow-up for treatment,** meaning patients started treatment but stopped attending appointments.
- **Access to quality cervical cancer treatment services is inadequate.**

Health workforce

- **Shortage of specialized personnel offering cervical cancer diagnosis, treatment and palliative care, and they are unevenly distributed across the country.** These specialist staff include Gynecologists, Gynecological Oncologists, Pathologists, Nephrologists, Palliative Care specialists, Radiologists, Counsellors. There is a limited number and unequal distribution of specialists with less than 100 oncologists and only 8 onco-gynecologists in Kenya.
- **Heavy workload in some existing regional comprehensive cancer centers,** and various entrenched healthcare human resource challenges are not addressed including high-turnover, brain drain, burnout, industrial action, and delayed renumeration.
- **Inadequate local training programs and incentives** to support HCW to implement the policy and regulations for cervical cancer management.
- **Lack of supportive supervision to guide HCW to use diagnostic and treatment devices.**

Health Informatics, supply chain and technologies

- **Inadequate supply, distribution, and maintenance of commodities and equipment**, this is due to high cost of importation, distribution and supply chain with tax charges, as well as regulatory barriers and a lack of local manufacturers
- **Treatment commodities are in short supply,** mostly due to limited funds to procure drugs.
- **Limited surveillance and health data information tracking.** No population-based cancer registry for deaths related to cervical cancer.
- **Restricted access to health information on cervical cancer at the community level across the patient journey** from diagnosis, treatment and post treatment.
- **Inadequacies in how health-related information flows, connects, and is used** across different systems and at different levels of the health system.

Education, information, and awareness

- **Patients' reluctance and lack of male partner support for invasive cervical cancer diagnosis** hinder timely diagnosis and treatment.
- **The general population is not adequately informed about where to access cancer diagnosis and treatment.**
- **The perception of cancer as a terminal prognosis means that individuals defer seeking treatment.**

Financing

- **No clear value proposition on investing in treatment of pre-cancerous lesions**

- **Substantial financial barriers for women to access treatment,** e.g. transport costs, childcare costs, lost wages, user fees.[24]
- **See Box 3 for cross-cutting financial gaps** across all three pillars.

SUMMARY OF GAPS & STAKEHOLDER ACTIVITY MAPPING

Table 2 below summarizes the gaps identified in previous sections, and outlines which of these gaps are being addressed by one or more partners, and which gaps are currently fully underserved. The stakeholder mapping is based on the stakeholder consultations, workshop, literature review, and additional information provided by the NCCP and NVIP.

Table 2*:* Summary of programmatic and financing gaps and examples of stakeholders addressing them

Identified programmatic, policy, and financing gaps	**Stakeholders working on activities aimed at addressing this gap**
Thematic area 1: Leadership & policy	
Kenya wants to move from an already too narrow multi-age cohort to single-age cohort despite low vaccination coverage	ThinkWell
Kenya is vaccinating girls using two doses of HPV while single dose is cost-effective and equally potent	KEPRECON
Poor coordination of various actors in cervical cancer elimination (CCE) (at county level particularly between health and education)	ThinkWell and NCCP/NVIP through the National Cervical Cancer Elimination Action Plan development
Thematic area 2: Service delivery	
Limited access to vaccines in hard-to-reach communities	UNICEF in one county
Facility- and school-based strategies are insufficiently reaching vulnerable groups, such as out-of-school girls	
Low availability of screening at primary care facilities	Jhpiego, Cure Cervical, Grounds for health, FIND, Roche, County First ladies Association (CFLA), International Cancer Institute, Africa Cancer Foundation Amref Health Africa, Women 4 Cancer,

	International Cancer Institute
Very high drop rates from First Dose to second.	UNICEF, Interreligious Council of Kenya, Kenya Conference of Catholic Bishops, Supreme Council of Kenya Muslims, Kilele Health, Women 4 Cancer, Kenyan Network of Cancer Organizations (KENCO), American Cancer Society (ACS)
Issues of parental consent on HPV vaccination, the process can slow the progress	Sky girls
Inadequate integration of HPV into the school health program	Ministry of Education (MoE), NVIP
Low uptake of HPV DNA testing	Jhpiego, Cure Cervical, AMPATH,
Limited flexibility in vaccine and screening delivery strategies	Cure Cervical (homebased screening),
High loss to follow up, and weak referral and linkages for cervical cancer diagnosis and treatment	Grounds for health, Inter-Culture & iLabAfrica, LVCT Health, CHS, Beyond Zero Campaign, international cancer institute (ICI), Marie Stopes international, Duke Global Health Institute
Inadequate community awareness and mobilization for HPV vaccination and screening	Together Women Can, UNICEF, Interreligious Council of Kenya, Kenya Conference of Catholic Bishops, Supreme Council of Kenya Muslims,

	Kilele Health, Women 4 Cancer, Kenyan Network of Cancer Organizations (KENCO), ACS, Kizazi Chetu, Action Against Hunger, National Cancer Institute of Kenya (NCI-K), WHO, Marie Stopes International-cancer
Thematic area 3: Health Informatics, technologies, supply chain	
No accurate denominator for the currently targeted 10–14-year-old girls	
No data on how many girls are in or out of school for the current target cohort	
Shortcomings in supply chain practices leading to expiries	MoH Health Technical Partners, UNICEF
Screening methods quality issues e.g., VIA and pap smear positivity consistently below the nationally recommended threshold	
Commodity stock-outs for HPV testing kits	CHAI
Limited lab capacity	CHAI, Roche, Becton Dickinson, Varian,
Thematic area 4: Health workforce	
Limited HR capacity at labs	CHAI, Becton Dickinson, Varian, Roche
Hesitancy in using diagnostic/treatment devices	CHAI
Inadequate number of HCWs trained on cervical cancer screening and treatment with frequent reshuffles of those trained	CHAI, Jhpiego, Beyond Zero, Amref
Thematic area 5: Education, information and awareness	
Inadequate community awareness and mobilization to counter misinformation	UNICEF, Interreligious Council of Kenya, Kenya Conference of Catholic Bishops, Supreme Council of Kenya Muslims, Kilele Health, Women 4 Cancer, Kenyan Network of Cancer

	Organizations (KENCO), American Cancer Society
Inadequate engagement of guardians/parents, youth, school head on HPV vaccination	National Parents Association
Health care workers hesitancy to offer HPV vaccine	
Limited knowledge on HPV vaccination among health workers, parents, school heads, as well as program managers and policy makers	UNICEF
Thematic area 6: Financing	
Overreliance on donor funding while several donors have or will soon withdraw	The National Treasury
Counties have no budget set aside for school-based HPV vaccination delivery, cervical cancer screening nor treatment	
Social health insurance package includes cervical cancer prevention services but has low coverage	Head of Health Financing at MoH
Poor resource prioritization practices: lean fiscal space in the counties is not allocated to maximize health impact	
Counties tend to view the provision of services to vulnerable populations (such as people living with HIV) to be the responsibility of donors, leading to their exclusion from county financial planning	
Inadequate financial advocacy tools	
Underfunded cervical cancer programs and limited visibility of financing available for and spent on cervical cancer elimination	Health Financing at MoH
Gavi transition plan does not cover a clear county resource allocation strategy	HENNET
Without full insight on the financial contributions of partners to the cervical cancer program, the government faces difficulties in effectively planning for transition.	HENNET

Primary Health Care Fund have inadequate funds for cervical cancer screening	Health Financing at MoH

PRIORITIZATION & EVIDENCE NEEDS

Table 3 outlines which of the gaps in **Table 2** must be prioritized to advance Kenya's progress towards its cervical cancer elimination targets. We analyzed the long list of gaps identified through the literature, data and policy review, key informant interviews, and co-creation workshop, and prioritized several gaps based on how frequently they came up and how pertinent they were according to stakeholders. Some of the evidence needs addressed before and during the first drafting workshop include the quantification of out-of-school girls by county, approaches to reaching hard-to-reach and hard-to-vaccinate populations, target numbers and strategies to reach girls in private schools and strategies evidence-informed strategies for scaling HPV testing.

Table 3: *Prioritized gaps grouped by thematic area and the respective stakeholders tacking these gaps*

Prioritized gaps	Evidence gap	Approach to filling the evidence gap	Timeline
Thematic area 1: Leadership & policy			
Kenya wants to move from an already too narrow multi-age cohort to single-age cohort even with low vaccination coverage	What would be the health and economic impact if Kenya transitions to a single age cohort, before reaching recommended routine HPV vaccination coverage?	Translate available evidence into a policy brief to support advocacy purposes and carry out any further analysis needed.	Start of July 2025
Kenya is vaccinating girls using two doses of HPV while single dose is cost effective and equally potent	• What is inhibiting the transition to a single-dose schedule, despite KENITAG's recommendation in place and clear cost saving potential? • What is the economic impact of delaying transitioning to a single-dose schedule?	Engagement with policymakers	Key insights behind the delays gained from Summit. Engagement with NVIP and MoH is ongoing to ensure no further delays.
		Quantifying cost savings (or rather missed cost savings from the delay so far), and additional number of girls that could have been vaccinated with that,	Complete

		translated into lives saved and/or economic gains (or missed gains) to support advocacy purposes.	
Thematic area 2: Service delivery			
Limited access to vaccines in hard-to-reach communities	• What might be cost-effective strategies to reaching hard-to-reach places with HPV vaccines and screening services, recognizing that outreach is costly and potentially cost-prohibitive in the current financial landscape?	Published evidence synthesis of strategies employed by other countries on reaching all girls in different contexts	Complete
		Targeted key informant interview (KII) with high-level implementation stakeholders at national and county level	To be completed before second drafting workshop
Facility- and school-based strategies are insufficiently reaching vulnerable groups, such as out-of-school girls	• Which sub-groups/sub-populations have the lowest service coverage on vaccination? • What approaches would be more cost-effective in reaching girls with low coverage with HPV vaccination? • For vulnerable groups within reach of health facilities, what are the supply side barriers to	Mapping of vaccine coverage by school type, sub-county, rural/urban, age, through analysis of surveillance data	To be completed before second drafting workshop
		Number of girls enrolled in private institutions per county, to guide approaches to engage these institutions	Complete
		Bottleneck analysis of HPV vaccine and testing in Kenya	To be completed before second drafting workshop

	accessing HPV vaccination and screening?	Feasibility of including HPV vaccination into other outreaches that counties conduct in schools e.g. deworming	To be determined.
Low availability of screening at primary care facilities	• Is the current facility-based policy sufficient to reach 70% screening coverage? • If not, what other cost-effective strategies can be proposed to achieve 70% screening coverage?	Analysis of number of women missed with screening services due to lack of proximity to a facility that offers cervical cancer screening services	To be completed before second drafting workshop
		HPV laboratory capacity mapping	Ongoing
Low uptake of HPV DNA testing	• What role can self-sample collection play in the national scale-up of HPV testing in Kenya?	Evidence synthesis of successful scale up of HPV testing in other countries, extracting best practices that can transfer to Kenya	Complete
Limited flexibility in vaccine and screening delivery strategies	• What HPV vaccine delivery strategy could maximize impact, while being cost-effective, especially to reach vulnerable girls? • What would be the cost-effectiveness of mobile clinics/HPV vaccination days? • How can counties sustainably finance HPV vaccine delivery through the delivery approaches in the current policy (facility, school-based) as well as	Published evidence synthesis of approaches implemented successfully in other countries/settings to overcome similar barriers (incl. extended facility opening hours)	Complete
		Analysis of how counties are currently financing HPV vaccine delivery and screening, and fiscal space analysis for various additional and alternative delivery modalities (KII with national and county program officers	To be completed before second drafting workshop

	additional approaches (e.g. outreach, HPV vaccination days, mobile clinics, integrated approaches)?		
Thematic area 3: Health Informatics, technologies, supply chain			
No mechanism for effective tracking of the eligible population for HPV vaccination and real-time availability of information to inform planning	• What is the efficacy of an HPV vaccine registry? How can it be structured/implemented? How can the platform created for COVID-19 vaccination be leveraged for HPV vaccination • How can National Education Management Information System (NEMIS) be appropriated to support HPV vaccination M&E?	Evidence synthesis of countries' experiences in successfully addressing denominator challenges for HPV	To be completed before second drafting workshop
No data on how many girls are in or out of school for the current target cohort	How can the number of girls in and out of school be estimated using existing data sources for periods in between a census?	Combined analysis of Kenya Demographic and Health Survey 2022 and current population projections from Kenya National Bureau of Statistics, to estimate the number of girls out of school per county	Complete
Thematic area 4: Health workforce			

Hesitancy in using thermal ablation, LEEP and colposcopy devices made available across the country	Why are health workers hesitant to use diagnostic and treatment devices?	Interviews with county non-communicable disease (NCD) coordinators and cervical cancer focal persons to identify reasons behind the limited use; could use the *Avoid, Reduce, and Manage* approach; Do they have the ability (capacity, training, skills), do they have the resources (commodities, equipment, infrastructure) to apply their abilities? and they motivated (Salaries, recognition of effort, rewards/sanctions?)	To be completed before second drafting workshop
Thematic area 5: Education, information and awareness			
Inadequate community awareness and mobilization to counter misinformation	• Which are the most feasible and sustainable approaches in education and awareness creation among various groups (adolescent girls, parents, religious and community leaders, youth)? Community, one-on-one approaches through CHPs vs mass media; small media (e.g. social media) vs mass media (e.g. local radio stations); integration into school curriculum vs training of teachers, a combination of these (e.g. social media for youth, school-based programs for	Evidence synthesis of successful strategies leveraged in various settings and countries	To be completed before second drafting workshop

	students, local media for communities, etc.)		
Limited knowledge on the concept and population risk of HPV and cervical cancer among health workers, parents, school heads, as well as program managers and policy makers	• What do mid- to low-level managers' understanding of the economic and health impact of cervical cancer, and the cost-effectiveness of cervical cancer prevention interventions?	Two-step process: assessment of knowledge gaps through a scoping review and synthesis of available evidence on feasible strategies; b) development of targeted knowledge creation/advocacy products (policy briefs, factsheets, FAQs, etc.).	Ongoing
Thematic area 6: Financing			
Overreliance on donor funding; in the context of dwindling donor support for health programs	• How can Kenya improve the cost-efficiency of cervical cancer elimination delivery to maximize health outcomes with existing resources?	Analysis of national and county health budget reports; synthesis of evidence on successful domestic financing approaches	To be done before validation workshops
Counties have no budget set aside for school-based HPV vaccination delivery, cervical cancer screening nor treatment	• How can counties sustainably finance routine HPV vaccination and testing?	Evidence synthesis on various approaches, including integration and cross-programmatic efficiencies, leveraging PHC Fund, etc.	To be done before validation workshops
Poor resource prioritization practices: lean fiscal space in the counties is not allocated to maximize health impact	• How do counties determine funding available for cervical cancer prevention and how can visibility of this be improved? • What is the capacity at county level to prioritize health	Fiscal space analysis: analysis of county health budgets, annual workplans and county health strategic plans	To be done before validation workshops

	interventions based on economic evidence and health impact optimization? How can this be improved to ensure inclusion of cervical cancer elimination as a priority? • What is the financial capacity at national and county level for scaling and sustaining cervical cancer elimination interventions?		
		KII of national and county cervical cancer program officers on capacity for evidence-based planning, forecasting and budgeting (these can include NCCP/NVIP program officers, county Expanded Program on Immunization (EPI) officers, subcounty EPI officers, county NCD coordinators/cervical cancer focal persons, nursing in charges)	Combined with the assessment for reasons behind the low utilization of treatment devices, given that the respondents will be the same.

NEXT STEPS

The cervical cancer program of Kenya currently faces various challenges that could be impeding any meaningful progress towards elimination. This document summarizes those challenges, prioritizes which challenges are most critical to resolve, as well as what evidence gaps need to be filled to formulate solutions to these challenges. Following the validation of this document, ThinkWell will:

- Fill out critical evidence gaps that need to be addressed to inform the interventions needed to address the challenges that this report has faced.
- Organize a series of additional workshops bringing together the NVIP, NCCP and other key cervical cancer stakeholders to outline the concrete actions and commitments in the National Cervical Cancer Elimination Action Plan.
- Cost out of the National Cervical Cancer Elimination Action Plan to ensure it is attainable and realistic, as well as to facilitate resource mobilization to expand and prioritize financing towards cervical cancer prevention.
- Develop and advocacy strategy with tailored economic messages towards various key stakeholders to support the effective implementation of the Action Plan.

ANNEX 1: LIST OF PRIORITIZED STAKEHOLDERS

Group	**Stakeholders shortlisted for intensive engagement throughout the development of the action plan**	**Stakeholders who participated in the co-creation workshop.**	**Stakeholders who participated in consultations (KII) ahead of the first co-creation workshop,** remainder to be completed by 30/5/2025
MoH executive	Director General, Principal Secretary		
Peer group	Girl guides and scouts, Sky girls		Youth leader
Parents' bodies	National Parents' Association	National Parents' Association	
Advisory committee	Stop Cervical Cancer Technical Working Group		
Pharmaceutical companies	Roche, Merck Sharp & Dohme	Roche	
Funders	The Gates Foundation		
Counties	One county from the 10 regions (in consultation with Council of Governors (COG), and COG representatives)	Four counties: Nakuru Laikipia Nyandarua Kiambu	
Media	5 key media houses		
International Advocacy groups	Blair Institute		
NGOS	CHAI, JHIEGO, Cure Cervical, Grounds for Health, PATH, ACS	CHAI, Grounds for Health, Cure Cervical, JHIEGO	CHAI, Grounds for Health, Cure Cervical
Private sector	Rural Private Health Association (RUPHA)		
Development partners	WHO country office, United Nations Children's Fund (UNICEF), United		UNICEF,

	Nations High Commissioner for Refugees (UNHCR)		
CSOs	Women for cancer, Kilele Health, KENCO, Africa cancer foundation	KENCO, Women for cancer, Kilele Health,	
Religious leaders	KCCB (Kenya Conference of Catholic Bishops), Supreme Council of Kenya Muslims (SUPKEM), National Council of Churches of Kenya (NCCK), Inter-Religious Council of Kenya (IRCK)	KCCB, SUPKEM,	IRCK
Research and academic institutions	Agha Khan University Center of Excellence for Maternal Child Health (AKU-CEO for MCH), Keprecon, University of Nairobi	AKU-CEO for MCH	
Health economics associations/groups	Health Economics Research Unit (HERU)		
SAGAS	NCI-K, Kenya Medical Research Institute, Kenya Medical Research Institute (KEMRI), KEMSA	KEMRI	
National referral hospitals	Kenyatta National Hospital, Kenyatta University Teaching, Referral & Research Hospital, Moi Teaching & Referral Hospital	Moi Teaching & Referral Hospital	
MoH Departments	Health promotion, Health financing, M&E, Community Health, Reproductive Health, NVIP, NCCP, National Public Health Lab (NPHL), National AIDS	NVIP, NCCP, NPHL, Reproductive Health, Health Financing	Health Financing

	and STI Control Program (Nascop), School Health, Health Technical Partners		
Regulatory bodies	Nursing Council of Kenya (NCK), Council of Churches, Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB)	NCK, Council of Churches	
Professional associations	Kenya Obstetrical and Gynecological Society (KOGS), Kenya Pediatric Association (KPA), KESHO	KOGS	
Other line ministries	MOE, Interior, The national treasury, gender		
Teachers' associations	Kenya National Union of Teachers		
Communities	Cancer Survivors		
Political class	Senate & National Assembly Health Committees, First lady Caucus		

ANNEX 2: STAKEHOLDER ENGAGEMENT SUMMARY

Group	Specific stakeholder	Key concern/interest/agenda	Preferred communication method	Frequency of communication	Document to be engaged on/phase of the plan
MoH leadership	Director General, Principal Secretary	Endorsement of the National Cancer Elimination Action Plan (NCCEAP) and sign off.	Official letters, policy briefs, fact sheets, blogs	Initial and at the end	Briefed on the project Endorsement
Peer group	Girl guides and scouts. sky girls	Meaningful youth involvement for better HPV vaccination uptake	Official letters, emails, webinars	Event based	Co-creation, Launch, dissemination
Parents' bodies	National Parents' Association	Involvement of guardians/parents for improved vaccination uptake	Official letters, emails, webinars	Event based	co-creation, during development, dissemination, launch
Advisory committee	Stop Cervical Cancer Technical Working Group	Multi sectoral approach in development of the NCCEAP. Approval of workplan, stakeholders' lists	Online meetings, policy briefs, fact sheets, blogs	Quarterly	To validate workplan and stakeholders concept note. Validate the finalized CCEP
Pharmaceutical companies	Roche, Becton Dickinson, Varian, Electa, Cepheid, Abbott	Quality diagnosis and treatment of cervical cancer	Official letters, emails, webinars	Event based	Co-creation, External validation
Funders	The Gates Foundation	Kenya adopts HPV policies that are cost effective	Official letters, emails, webinars, quarterly reports	Event based	As required by project
Counties	One county from the 10regions (in consultation with COG) COG representatives	Cervical cancer elimination interventions that are responsive, sustainable and cost effective	Through COG-Official letters, emails, webinars	Event based	All-dissemination 10 county reps - co-creation, development process and launch, validation
Media	All media houses	Publicize the NCCEAP work.	Official letters, emails, webinars	Event based	Launch the project

		Support launch and dissemination of this work.			Launch of NCCEAP
International Advocacy groups	Blair institute	Support with international advocacy of the cervical cancer elimination work	Official letters, emails, webinars	Event based	Dissemination, external validation
NGOs	CHAI, JHIEGO, Amref, cure cervical, grounds for health, PATH, ACS	Incorporation of their work and lessons into the NCCEAP. Increase investment in the NCCEAP	Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	Co-creation, development, launch
Other NGOS	Living Good, Save the children Unitaid-French embassy, LVCT Health, National Council for Population and Development,	Incorporation of their work and lessons into the NCCEAP. Increase investment in the NCCEAP	Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	External validation, dissemination
Private sector	Kenya Healthcare Federation (RUPHA)	Ensure that the private hospitals perspectives are included in the NCCEAP	Official letters, emails, webinars	Event based	Co-creation, Launch, dissemination, external validation
Development partners	WHO-AFRO, country office, UNICEF, World Bank, UNFPA, UNHCR	Incorporation of their work and lessons into the NCCEAP. Increase investment in the NCCEAP	Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	Cocreation, development, launch, dissemination, external validation
CSOs	KENCO: Women for cancer, Kilele Health	Leverage CSOs to do advocacy and increase HPV vaccination uptake, screening uptake and counter of misinformation	Official letters, emails, webinars	Event based	Cocreation, development, launch, dissemination, external validation
Religious leaders	KCCB, SUPKEM, NCCK	Leverage religious bodies to champion HPV vaccination and screening	Official letters, emails, webinars	Event based	Co-creation, Launch, dissemination, external validation

Research and academic institutions	AKU-COE for MCH, UON, Keprecon, African Population and Health Research Center	Evidence generation on cervical cancer elimination. Dissemination of findings/learnings	Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	Co-creation, external validation, dissemination, launch
Health economics associations/groups	HERU		Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	Dissemination, external validation
SAGAS	NCI-K, KEMRI, KEMSA, SHA	Bring the provider perspective of the cervical cancer journey including financing	Official letters, emails, webinars	Event based	Cocreation, development, launch, dissemination, external validation
National referral hospitals	Kenyatta National Hospital, Kenyatta University Teaching, Referral & Research Hospital, Texas medical center,	Bring the provider perspective of the cervical cancer journey including financing	Official letters, emails, webinars	Event based	External validation, dissemination
MoH departments	Health promotion, Health Financing, M&E, Community Health, Reproductive Health, NVIP, NCCP, National Public Health Lab, Nascop, Central Planning and Project Monitoring Unit, School Health	Support ensuring that the NCCEAP is aligned to current policies Bring the wealth of knowledge and expertise to NCCEAP	Official letters, emails, webinars, policy briefs, factsheets, blogs	Event based	Cocreation, development, launch, dissemination, internal validation
Other MoH departments			Official letters, emails, webinars	Event based	internal validation, dissemination
Regulatory bodies	NCK, Council of Churches, KMLTTB		Official letters, emails, webinars	Event based	Cocreation, dissemination, external validation
Professional bodies	KOGS, KPA, KESHO		Official letters, emails, webinars	Event based	Cocreation, dissemination, external validation

Other line ministries	MOE, gender, interior, state dept of children services	Bring views of enabler Institutions	Official letters, emails, webinars	Event based	Cocreation, validation, dissemination
Political class	Senate & National Assembly Health Committees, First lady Caucus	Advocacy for cervical cancer elimination including increased investments	Official letters, emails, webinars, High level presentation on NCCEAP	Event based	External validation, dissemination, launch

ANNEX 3: INTERVIEW GUIDE

1. What is the name of your institution and its category? What is your capacity there?
2. What cervical cancer areas does your organization focus on? Have you generated any evidence on cervical cancer elimination efforts? Give examples and where we can access the information
3. How have you influenced change towards cervical cancer elimination? Give us some examples and where we can find this information.
4. How much funding has your organization invested/spent towards cervical cancer elimination interventions in the last year?
5. How many other institutions can your institution directly influence? Expound on how this usually happens
6. Would you be interested in supporting MoH through NVIP and NCCP to develop a cervical cancer elimination plan? What support would you offer?
7. Describe your institution's current cervical cancer objectives, previous achievements, plans and key gaps to be addressed to achieve cervical cancer elimination.
8. Which institutions is your organization working/ in partnership with? What is the envisioned benefit of this coalition?
9. What are the main enablers and barriers to implementation of your objectives? Explain how so?
10. What do you think are the key supply-side and demand-side gaps that are inhibiting progress towards cervical cancer elimination in Kenya now?
11. What are the top 3-5 priority interventions you would want to see reflected in a national cervical cancer elimination action plan?
12. Elaborate on some of the financing gaps and opportunities you are aware of in the cervical cancer elimination space? What are some of the options you foresee would address these gaps?
13. How would you foresee financial and technical sustainability being achieved in the cervical cancer elimination journey?

ANNEX 4: LITERATURE SUMMARY

Publication	Focus and population	Key gaps/barriers
Watson-Jones et al (2015)[21]	Barriers to HPV vaccination and potential acceptability of a future HPV vaccination program amongst girls living in hard-to-reach populations in Kenya	School absenteeism and drop-out, early age of sex and marriage, lack of parental support, population mobility and distance from services
Omondi et al, (2022)[22]	Cervical cancer screening in a convenient sample of pregnant women	Knowledge but not beliefs or attitudes identified as drivers of cervical cancer screening
Adewumi et al, (2022)[30]	Qualitative study women in the community and healthcare workers	Low awareness of HPV and cervical cancer screening in the community, fear of pain and embarrassment to a screening pelvic exam, providers' lack of knowledge, discomfort with a sensitive subject, workload among providers and lack of supplies and trained staff.
Rosser et al, (2016)[23]	Cross-sectional survey of 419 women attending health facilities in rural western Kenya	HIV stigma was correlated with cervical cancer stigma
Buchanan et al, (2017)[18]	Women and their male partners in both a rural and urban setting	Access (transportation, cost), spousal approval, stigma, embarrassment during screening, concerns about speculum use causing infertility, fear of residual effects of test results, lack of knowledge, and religious or cultural beliefs.
Mabeya et al, (2021)[9]	practice desire, attitude and knowledge of mothers of adolescent girls on HPV vaccination in Western Kenya	Negative attitude to daughters´ early onset of sexual activity significantly reduced up
Isaacson et al, (2023)[16]	Qualitative study conducted within a self-collected HPV screening trial in Migori County, Kenya.	Poor understanding of HPV and cervical cancer, impacting comprehension of screening results and treatment instructions, transportation costs and long distances to the hospital, work and household obligations, and fear of treatment.
Rosser et al, (2015)[20]	Survey of healthcare workers at rural health care	Facilities face staff shortages, lack of trained staff, insufficient space, and supply issues. The patient barriers

	facilities providing free cervical cancer screening	commonly perceived by the staff included inadequate knowledge, wait time, discomfort with male providers, and fear of pain with the speculum exam.
Page et al, (2020)[24]	Surveys among women who screened positive for high-risk human papillomavirus in a cervical cancer prevention program in Kenya.	Supply stockouts, treatment delays due to lack of supplies, treatment delays due to provider factors; lack of knowledge of HPV and cervical cancer, perceived financial barriers for transportation and childcare as the main barrier to accessing treatment. Providing treatment free of cost was the greatest facilitator of treatment.
Choi et al, (2024)[25]	Evaluation of an mHealth strategy to improve follow-up throughout the cervical cancer screening cascade.	mHealth adoption (text-messaging) alone may not significantly increase linkage to cervical precancer treatment. More comprehensive programs are needed to improve linkage to care to further reduce structural and logistical barriers to cervical cancer treatment.
Huchko et al, (2020)[26]	A micro-costing study to assess the efficiency of screening through high-volume community health campaigns in Western Kenya	Door-to-door mobilization, key stakeholder engagement, logistics and technical support, and adequate staffing were facilitators for success of community health campaigns for cervical cancer screening. Cultural factors, health beliefs, and poor coordination among implementation partners were potential key barriers to screening uptake. Efficiency was directly correlated to overall numbers of women screened, but not to proportion of population screened.
Mabachi et al, (2022)[27]	Assessing efficacy of a e-health tool in improving linkage to treatment after cervical cancer screening	eHealth tool-the Cancer Tracking System improved linkage to treatment and follow-up after cervical cancer screening
Eastment et al, (2022)[28]	Survey to identify clinic-level barriers to screening at family planning clinics in Mombasa County	Family planning clinics with at least one personnel trained in cervical cancer screening and treatment were more likely to be offering screening.
Rosser et al, (2014)[29]	Survey among men in Western Kenya	Only half of the men perceived their partners to be at risk for cervical cancer.
Adewumi et al, (2019)[30]	In-depth interviews with women and CHVs in Western Kenya	Women experienced both support and opposition from their male partners, with support including financial and emotional aid, and opposition involving negative reactions, lack of permission, and isolation. Most believed better knowledge of HPV and cervical cancer could improve partner support and supported involving community leaders in educational campaigns to influence men.

Ragan et al, (2018)[31]	Qualitative study among screen-eligible women and their male partners	Barriers reported include: (a) concerns about side effects; (b) treatment-related fear and stigma; (c) marital discord; (d) financial and access issues; (e) religious and cultural beliefs; and (f) limited knowledge.
Kangmennaang et al, (2018)[32]	Secondary analysis of KDHS 2014 dataset	Gender equity, health insurance coverage and education level significantly predicted cervical cancer screening rates. Results further revealed regional as well as rural-urban inequalities in cervical cancer screening.
Vermandere et al, (2016)[33]	Utility of the Health Belief Model (HBM) in predicting HPV vaccine uptake in Kenya	Perception as “well-informed” was the strongest influencer of uptake
Masika et al, (2015)[34]	Assessment of primary school teachers' knowledge and acceptability of HPV vaccine	Main barriers were insufficient information about the vaccine, poor accessibility of schools, absenteeism of girls on vaccine days, and fear of side effects.
Page et al, (2019)[35]	Prospective cohort study in Western Kenya	The majority of high risk HPV+ women who did not get treated were lost at the stage of decision-making or accessing treatment
Vermandere et al, (2015)[36]	Acceptance and uptake of HPV vaccination in Eldoret, Kenya	Uptake was more determined by program awareness than by HPV vaccine acceptance.
Oketch et al, (2019)[37]	In-depth interviews of women participating in a HPV testing trial in Western Kenya	Uptake facilitators: Prior awareness of HPV, personal perception of cervical cancer risk, desire for improved health outcomes, and peer and partner encouragement. Logistical and screening facilitators: confidence in the ability to complete HPV self-sampling, proximity to screening sites and feelings of privacy and comfort conducting the HPV self- sampling Barriers to screening: fear of need for a pelvic exam, fear of disease and death associated with cervical cancer.
Huchko et al, (2019)[38]	Survey among HPV-positive women in Western Kenya	Nearly all women initially feared the treatment procedure but found it more positive than expected. The most common barrier was a lack of transportation funds, while decentralized treatment and spousal encouragement, including financial support, were identified as key factors improving access.

Were et al. (2011)[39]	Survey among women presenting at MCH-FP clinic at MTRH, Eldoret, Kenya	Fear of abnormal results and lack of finances were the commonest barriers to screening
Podolak et al, (2017)[40]	Participatory action research, scenario-based planning, and phenomenology to assess feasibility of cervical self-sampling in Kenya	57 factors, grouped into 13 thematic categories, 10 strategic directions and 22 implementation strategies deemed necessary to implement a technically viable, politically supported, affordable, logistically feasible, socially acceptable, and transformative Cervical Self-Sampling Program. The study outlines steps that can be adopted to implement cervical self-sampling in Kenya
Mabeya et al, (2018)[41]	Survey among girls aged 9-14 years, in Eldoret, Kenya	Distance to the hospital was a statistically significant risk factor for non-completion of HPV vaccination

REFERENCES

[1] Cancer Today [Internet]. [cited 2025 Feb 26];Available from: **https://gco.iarc.who.int/today/en/fact-sheets-populations#countries**

[2] Tewari KS. Cervical Cancer. New England Journal of Medicine [Internet] 2025 [cited 2025 Feb 26];392(1):56–71. Available from: **https://www.nejm.org/doi/full/10.1056/NEJMra2404457**

[3] WHO. A Global Strategy for elimination of cervical cancer [Internet]. [cited 2020 Mar 2];Available from: https://www.who.int/activities/a-global-strategy-for-elimination-of-cervical-cancer

[4] WUENIC Trends [Internet]. [cited 2025 Apr 11];Available from: **https://worldhealthorg.shinyapps.io/wuenic-trends/** 15

[5] Mwenda V, Jalang'o R, Miano C, Bor JP, Nyangasi M, Mecca L, et al. Impact, cost-effectiveness, and budget implications of HPV vaccination in Kenya: A modelling study. Vaccine 2023;41(29):4228–38.

[6] Umutesi G, Hathaway CL, Heitner J, Jackson R, Miano CW, Mugambi W, et al. The Potential Impact of a Single-Dose HPV Vaccination Schedule on Cervical Cancer Outcomes in Kenya: A Mathematical Modelling and Health Economic Analysis. Vaccines (Basel) [Internet] 2024 [cited 2025 Feb 26];12(11). Available from: **https://pubmed.ncbi.nlm.nih.gov/39591151/**

[7] Mabeya H, Menon S, Weyers S, Naanyu V, Mwaliko E, Kirop E, et al. Uptake of three doses of HPV vaccine by primary school girls in Eldoret, Kenya; a prospective cohort study in a malaria endemic setting. BMC Cancer [Internet] 2018 [cited 2025 Feb 26];18(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/29751793/**

[8] Adjagba AO, Oguta JO, Wambiya EOA, Nyakundi C, Okemwa S, Akoth C. "Are we ready to transition from the Global Alliance for Vaccines and Immunization support?" Perceptions from 15 Kenyan counties. Pan Afr Med J [Internet] 2024 [cited 2025 Feb 26];49. Available from: **https://pubmed.ncbi.nlm.nih.gov/39720399/**

[9] Mabeya H, Odunga J, Broeck D Vanden. Mothers of adolescent girls and Human Papilloma Virus (HPV) vaccination in Western Kenya. Pan Afr Med J [Internet] 2021 [cited 2025 Feb 26];38. Available from: **https://pubmed.ncbi.nlm.nih.gov/33912296/**

[10] Analysis of progress towards sustainable financing of immunization in ten African countries | PATH [Internet]. [cited 2025 Feb 26];Available from: https://www.path.org/our-impact/resources/analysis-of-progress-towards-sustainable-financing-of-immunization-in-ten-african-countries/

[11] Boonstoppel, L., Archer, R., Mwenda, V., Kangee, M., Murira, F., & Musuva, A. How the US government funding cuts affect cervical cancer prevention in Kenya, and what can be done about it. 2025 [cited 2025 May 7]. ThinkWell. **https://thinkwell.global/how-the-us-government-funding-cuts-affect-cervical-cancer-prevention-in-kenya-and-what-can-be-done-about-it/**

[12] Mwenda V, Mburu W, Bor JP, Nyangasi M, Arbyn M, Weyers S, et al. Cervical cancer programme, Kenya, 2011–2020: lessons to guide elimination as a public health problem. Ecancermedicalscience [Internet] 2022 [cited 2023 May 2];16. Available from: /pmc/articles/PMC9470178/

[13] Mwenda V, Murage D, Kilonzo C, Bor JP, Njiri P, Osiro L, et al. Baseline assessment of cervical cancer screening and treatment capacity in 25 counties in Kenya, 2022. Front Oncol [Internet] 2024 [cited 2024 Jul 12];14(2):1371529. Available from: **https://www.frontiersin.org/articles/10.3389/fonc.2024.1371529/full**

[14] Ministry of Health. Kenya Health Facility Assessment Report, 2019 [Internet]. [cited 2020 Apr 9];Available from: **http://www.health.go.ke/wp-content/uploads/2020/01/KHFA-2018-19-Popular-version-report-Final-.pdf**

[15] Huchko MJ, Olwanda E, Choi Y, Kahn JG. HPV-based cervical cancer screening in low-resource settings: Maximizing the efficiency of community-based strategies in rural Kenya. Int J Gynaecol Obstet [Internet] 2020 [cited 2025 Feb 26];148(3):386–91. Available from: **https://pubmed.ncbi.nlm.nih.gov/31849036/**

[16] Isaacson S, Adewumi K, Smith JS, Novak C, Oketch S, Huchko MJ. A Qualitative Exploration of Barriers to Treatment Among HPV-Positive Women in a Cervical Cancer Screening Study in Western Kenya. Oncologist [Internet] 2022 [cited 2025 Feb 26];28(1):e9. Available from: **https://pmc.ncbi.nlm.nih.gov/articles/PMC9847557/**

[17] Oketch SY, Kwena Z, Choi Y, Adewumi K, Moghadassi M, Bukusi EA, et al. Perspectives of women participating in a cervical cancer screening campaign with community-based HPV self-sampling in rural western Kenya: a qualitative study. BMC Womens Health [Internet] 2019 [cited 2025 Feb 26];19(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/31196175/**

[18] Buchanan Lunsford N, Ragan K, Lee Smith J, Saraiya M, Aketch M. Environmental and Psychosocial Barriers to and Benefits of Cervical Cancer Screening in Kenya. Oncologist [Internet] 2017 [cited 2025 Feb 26];22(2):173–81. Available from: **https://pubmed.ncbi.nlm.nih.gov/28167567/**

[19] Adewumi K, Nishimura H, Oketch SY, Adsul P, Huchko M. Barriers and Facilitators to Cervical Cancer Screening in Western Kenya: a Qualitative Study. J Cancer Educ [Internet] 2022 [cited 2025 Feb 26];37(4):1122–8. Available from: **https://pubmed.ncbi.nlm.nih.gov/33411253/**

[20] Rosser JI, Hamisi S, Njoroge B, Huchko MJ. Barriers to Cervical Cancer Screening in Rural Kenya: Perspectives from a Provider Survey. J Community Health [Internet] 2015 [cited 2025 Feb 26];40(4):756–61. Available from: **https://pubmed.ncbi.nlm.nih.gov/25677728/**

[21] Watson-Jones D, Mugo N, Lees S, Mathai M, Vusha S, Ndirangu G, et al. Access and Attitudes to HPV Vaccination amongst Hard-To-Reach Populations in Kenya. PLoS One [Internet] 2015 [cited 2025 Feb 26];10(6). Available from: **https://pubmed.ncbi.nlm.nih.gov/26115523/**

[22] Omondi AA, Shaw-Ridley MD, Soliman A. Factors influencing cervical cancer screening among pregnant women in Nairobi, Kenya. Afr J Reprod Health [Internet] 2022 [cited 2025 Feb 26];26(11):47–55. Available from: **https://pubmed.ncbi.nlm.nih.gov/37585133/**

[23] Rosser JI, Njoroge B, Huchko MJ. Cervical Cancer Stigma in Rural Kenya: What Does HIV Have to Do with It? J Cancer Educ [Internet] 2016 [cited 2025 Feb 26];31(2):413–8. Available from: **https://pubmed.ncbi.nlm.nih.gov/25982550/**

[24] Page CM, Ibrahim S, Park LP, Huchko MJ. Systems-level barriers to treatment in a cervical cancer prevention program in Kenya: Several observational studies. PLoS One [Internet] 2020 [cited 2025 Feb 26];15(7). Available from: **https://pubmed.ncbi.nlm.nih.gov/32658921/**

[25] Choi Y, Ibrahim S, Park LP, Bukusi EA, Huchko MJ. The impact of text message reminders on cryotherapy uptake among women testing positive for HPV in western Kenya: a prospective cohort study. BMC Womens Health [Internet] 2024 [cited 2025 Feb 26];24(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/38218782/**

[26] Huchko MJ, Olwanda E, Choi Y, Kahn JG. HPV-based cervical cancer screening in low-resource settings: Maximizing the efficiency of community-based strategies in rural Kenya. Int J Gynaecol Obstet [Internet] 2020 [cited 2025 Feb 26];148(3):386–91. Available from: **https://pubmed.ncbi.nlm.nih.gov/31849036/**

[27] Mabachi NM, Wexler C, Acharya H, Maloba M, Oyowe K, Goggin K, et al. Piloting a systems level intervention to improve cervical cancer screening, treatment and follow up in Kenya. Front Med (Lausanne) [Internet] 2022 [cited 2025 Feb 26];9. Available from: **https://pubmed.ncbi.nlm.nih.gov/36186820/**

[28] Eastment MKC, Wanje G, Richardson BA, Mwaringa E, Patta S, Sherr K, et al. A cross-sectional study of the prevalence, barriers, and facilitators of cervical cancer screening in family planning clinics in Mombasa County,

Kenya. BMC Health Serv Res [Internet] 2022 [cited 2025 Feb 26];22(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/36564740/**

[29] Rosser JI, Zakaras JM, Hamisi S, Huchko MJ. Men's knowledge and attitudes about cervical cancer screening in Kenya. BMC Womens Health [Internet] 2014 [cited 2025 Feb 26];14(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/25416335/**

[30] Adewumi K, Oketch SY, Choi Y, Huchko MJ. Female perspectives on male involvement in a human-papillomavirus-based cervical cancer-screening program in western Kenya. BMC Womens Health [Internet] 2019 [cited 2025 Feb 26];19(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/31395060/**

[31] Ragan KR, Buchanan Lunsford N, Lee Smith J, Saraiya M, Aketch M. Perspectives of Screening-Eligible Women and Male Partners on Benefits of and Barriers to Treatment for Precancerous Lesions and Cervical Cancer in Kenya. Oncologist [Internet] 2018 [cited 2025 Feb 26];23(1):35–43. Available from: **https://pmc.ncbi.nlm.nih.gov/articles/PMC5759810/**

[32] Kangmennaang J, Onyango EO, Luginaah I, Elliott SJ. The next Sub Saharan African epidemic? A case study of the determinants of cervical cancer knowledge and screening in Kenya. Soc Sci Med [Internet] 2018 [cited 2025 Feb 26];197:203–12. Available from: **https://pubmed.ncbi.nlm.nih.gov/29253722/**

[33] Vermandere H, van Stam MA, Naanyu V, Michielsen K, Degomme O, Oort F. Uptake of the human papillomavirus vaccine in Kenya: testing the health belief model through pathway modeling on cohort data. Global Health [Internet] 2016 [cited 2025 Feb 26];12(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/27846857/**

[34] Masika MM, Ogembo JG, Chabeda SV, Wamai RG, Mugo N. Knowledge on HPV Vaccine and Cervical Cancer Facilitates Vaccine Acceptability among School Teachers in Kitui County, Kenya. PLoS One [Internet] 2015 [cited 2025 Feb 26];10(8):e0135563. Available from: **https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0135563**

[35] Page CM, Ibrahim S, Park LP, Huchko MJ. Patient factors affecting successful linkage to treatment in a cervical cancer prevention program in Kenya: A prospective cohort study. PLoS One [Internet] 2019 [cited 2025 Feb 26];14(9). Available from: **https://pubmed.ncbi.nlm.nih.gov/31532808/**

[36] Vermandere H, Naanyu V, Mabeya H, Broeck D Vanden, Michielsen K, Degomme O. Determinants of acceptance and subsequent uptake of the HPV vaccine in a cohort in Eldoret, Kenya. PLoS One [Internet] 2014 [cited 2025 Feb 26];9(10). Available from: **https://pubmed.ncbi.nlm.nih.gov/25299646/**

[37] Oketch SY, Kwena Z, Choi Y, Adewumi K, Moghadassi M, Bukusi EA, et al. Perspectives of women participating in a cervical cancer screening campaign with community-based HPV self-sampling in rural western Kenya: a qualitative study. BMC Womens Health [Internet] 2019 [cited 2025 Feb 26];19(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/31196175/**

[38] Huchko M, Adewumi K, Oketch S, Saduma I, Bukusi E. 'I'm here to save my life': a qualitative study of experiences navigating a cryotherapy referral system for human papillomavirus-positive women in western Kenya. BMJ Open 2019;9(7).

[39] Perspectives of women participating in a cervical cancer screening campaign with community-based HPV self-sampling in rural western Kenya: a qualitative study - PubMed [Internet]. [cited 2025 Feb 26];Available from: **https://pubmed.ncbi.nlm.nih.gov/31196175/**

[40] Podolak I, Kisia C, Omosa-Manyonyi G, Cosby J. Using a multimethod approach to develop implementation strategies for a cervical self-sampling program in Kenya. BMC Health Serv Res [Internet] 2017 [cited 2025 Feb 26];17(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/28320374/**

[41] Mabeya H, Menon S, Weyers S, Naanyu V, Mwaliko E, Kirop E, et al. Uptake of three doses of HPV vaccine by primary school girls in Eldoret, Kenya; a prospective cohort study in a malaria endemic setting. BMC Cancer [Internet] 2018 [cited 2025 Feb 26];18(1). Available from: **https://pubmed.ncbi.nlm.nih.gov/29751793/**

Other resources:

- Uwaliraye, P., Lyle, V., Mwanza, J., Biraro, G., Earle, A. J., & Gatome-Munyu, A. (2024, November 12). Rwanda's Single Project Implementation Unit: An Effective Donor Coordination Platform in the Journey to Achieving Universal Health Coverage. Health Systems & Reform. 2024 [cited 2025 May 7, 10(3). Available from: **https://www.tandfonline.com/doi/full/10.1080/23288604.2024.2403527**
- Strategic vaccine public procurement processes: **https://www.unicef.org/supply/strategic-vaccine-public-procurement-processes**
- Vaccine Investment Strategy 2024: **https://www.gavi.org/our-alliance/strategy/vaccine-investment-strategy-2024**
- Immunization financing toolkit: a resource for policymakers and program managers (English). Washington, D.C.: World Bank Group. **http://documents.worldbank.org/curated/en/590281468155977628/Immunization-financing-toolkit-a-resource-for-policy-makers-and-program-managers**