KINGDOM OF ESWATINI

MINISTRY OF HEALTH

ESWATINI NATIONAL CERVICAL CANCER ELIMINATION ACCELERATION PLAN

2024 - 2030

World Health Organization

ESWATINI NATIONAL CANCER CONTROL UNIT

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List of abbreviations and acronyms

1. **CMIS**: Client Management Information System
2. **CRVS**: Civil Registration and Vital Statistics
3. **CSO**: Civil Society Organization
4. **CT**: Computed Tomography
5. **DIS**: Data Information Systems
6. **DNA**: Deoxynucleic Acid
7. **GLOBOCAN**: Global Cancer Observatory
8. **GP**: General Practitioner
9. **HIV**: Human Immunodeficiency Virus
10. **HMIS**: Health Management Information System
11. **HPV**: Human Papillomavirus
12. **IAEA**: International Atomic Energy Agency
13. **LEEP**: Loop Electrosurgical Excision Procedure
14. **LLETZ**: Large Loop Excision of the Transformation Zone
15. **LMICs**: Low- and Middle-Income Countries
16. **M&E**: Monitoring and Evaluation
17. **MCH**: Maternal and Child Health
18. **MRI**: Magnetic Resonance Imaging
19. **NCCU**: National Cancer Control Unit
20. **NCD**: Non-Communicable Disease
21. **NGO**: Non-Governmental Organization
22. **PACS**: Picture Archiving and Communication System
23. **PET**: Positron Emission Tomography
24. **PT**: Proficiency Testing
25. **RHMT**: Regional Health Management Team
26. **SADCAS**: Southern African Development Community Accreditation Service
27. **STEPS**: STEPwise approach to Surveillance (WHO's approach to chronic disease risk factor surveillance)
28. **SOPs**: Standard Operating Procedures
29. **TWG**: Technical Working Group
30. **VIA**: Visual Inspection with Acetic Acid
31. **VILI**: Visual Inspection with Lugol's Iodine
32. **VMMC**: Voluntary Medical Male Circumcision
33. **WHO**: World Health Organization

Forward

Cervical cancer remains one of the most preventable yet most prevalent cancer affecting women in our nation. The latest data indicates that cervical cancer is the most common cancer in Eswatini, accounting for approximately 37.6% of cancers. In 2022 alone, it is estimated that approximately 417 women were newly diagnosed with this disease, and more and around 270 succumbed to it.

These numbers are not just statistics; they represent mothers, daughters, sisters, and wives whose lives have been irrevocably altered by this preventable disease. This is why the government, through the Ministry of Health, is committed to eliminating cervical cancer as a public health threat by 2030.

It is both an honour and a responsibility to present the National Cervical Cancer Elimination Acceleration Plan 2024-2030. This plan represents our nation's commitment to the health and well-being of every woman and girl in Eswatini, recognizing that cervical cancer is not just a medical challenge, but a critical public health priority.

Our plan is ambitious but achievable. It is grounded in evidence-based strategies that include widespread vaccination against the human papillomavirus (HPV), enhanced screening and early detection programs, and the provision of timely and effective treatment for all women, regardless of their socioeconomic status.

This plan was developed with the collaboration of various stakeholders, including healthcare professionals, non-governmental organizations, international partners, and the communities we serve. Their invaluable contributions reflect a collective commitment to health equity and to ensuring that no woman in Eswatini is left behind in the fight against cervical cancer.

The successful implementation of this plan will require sustained efforts, robust partnerships, and the dedication of our health workforce. It will also necessitate a strong political will, adequate funding, and community engagement at all levels. I am confident that through our concerted efforts, we can achieve the goal of eliminating cervical cancer in Eswatini by 2030.

The elimination of cervical cancer in Eswatini is within our grasp, and by 2030, we will look back with pride at the lives saved and the communities strengthened through our collective efforts.

Let this plan serve as a beacon of hope and a testament to our unwavering commitment to the health of our women and girls. Together, we can make cervical cancer elimination a reality in our beloved Kingdom.

Dr Velephi Okello

Director of Health Services

Acknowledgement

The development of the Cervical Cancer Elimination Acceleration Plan in the Kingdom of Eswatini 2024-2030 has been a collaborative effort that reflects the commitment of many dedicated individuals and organizations.

We extend our deepest gratitude to the World Health Organization for their unwavering technical and financial support. Their expertise and resources have been instrumental in shaping this comprehensive plan, guiding our efforts towards the goal of eliminating cervical cancer in Eswatini.

We also wish to acknowledge the invaluable contributions of our development partners; their continued support and collaboration have strengthened our capacity to address the cervical cancer burden in the Kingdom.

We also recognize the essential role played by civil society organizations, non-governmental organizations, and the private sector in advocating for, and supporting, the implementation of cervical cancer prevention and control initiatives. Your contributions have been vital in ensuring that this plan is both inclusive and effective.

Special thanks go to our national stakeholders, including the Ministry of Health staff, healthcare professionals, and community leaders, whose tireless efforts on the ground have laid the foundation for this plan. Your dedication to improving the health of women in Eswatini is commendable and deeply appreciated.

Lastly but not least, we thank the women and communities of Eswatini who have participated in the consultations, shared their experiences, and provided insights that have shaped this plan. Your voices have been heard, and your input has been crucial in designing a strategy that truly meets the needs of our nation.

Together, we embark on this journey with the shared vision of a future free from cervical cancer. Let us continue to work in partnership, with determination and solidarity, to achieve this common goal.

Ms Rejoice Nkambule

Deputy Director - Public Health

Executive Summary

The Cervical Cancer Elimination Acceleration Plan in the Kingdom of Eswatini 2024-2030 is a comprehensive strategy aimed at eliminating cervical cancer as a public health problem by 2030. The plan is aligned with the World Health Organization (WHO) global strategy for cervical cancer elimination and outlines key interventions and strategic objectives designed to achieve the targets of 90-70-90 by 2030: 90% of girls fully vaccinated with the HPV vaccine by age 15, 70% of women screened using a high-performance test by age 35 and again by 45, and 90% of women identified with cervical disease receiving treatment.

Background and Rationale

Cervical cancer remains a significant public health issue in Eswatini, accounting for approximately 37.6% of all cancers in women. In 2022, it was estimated that around 417 women were newly diagnosed with cervical cancer, with approximately 270 women succumbing to the disease. The high incidence and mortality rates are driven by a combination of factors, including limited access to screening and treatment services, as well as high HIV prevalence, which increases the risk of cervical cancer.

Strategic Framework

The plan is structured around six strategic objectives aimed at reducing the burden of cervical cancer in Eswatini:

1. **Strengthen Health Systems Governance and Coordination:** This involves enhancing the capacity of the National Cancer Control Unit (NCCU) and establishing strong coordination mechanisms at national and regional levels to ensure effective implementation of cervical cancer interventions.
2. **Scale-Up HPV Vaccination:** The goal is to achieve a 90% coverage of HPV vaccination among girls aged 9-14 years by 2030. Strategies include improving vaccine delivery systems, increasing public awareness, and addressing vaccine hesitancy.
3. **Increase Coverage of Cervical Cancer Screening:** The plan aims to reach a 70% screening coverage using high-performance tests for women aged 25-49 years and 90% treated rate for pre-cancerous lesions by 2030. This will be achieved by expanding access to screening services, integrating them into existing health services, and ensuring timely treatment of pre-cancerous lesions.
4. **Improve Access to Treatment and Palliative Care:** Ensuring that 90% of women diagnosed with invasive cervical cancer receive timely and effective treatment and strengthening palliative care services are critical components of the strategy.

5. **Enhance Monitoring and Evaluation (M&E) Systems:** The plan emphasizes the need for robust M&E systems to track progress, including the establishment of a digital platform that links HPV vaccination, screening, and treatment data.

6. **Promote Multisectoral Collaboration and Sustainable Financing:** Achieving cervical cancer elimination requires strong partnerships across sectors and sustainable financial mechanisms, including increased domestic funding and international support.

Financial resources needed

Overall, the total cost of implementing the Cervical Cancer Elimination Strategy from 2024 to 2030 is estimated to be **636,409,385 million Emalangeni** (SZL), with funding expected to come from Government budget, International Partners, Donors, Local NGOs and CSOs. This investment is seen as a crucial step toward reducing the long-term burden of cervical cancer and improving women's health outcomes. The role of private sector should also be highlighted mainly in partnering with the government establishing misiing key diagnostic and treatment services

Implementation and Monitoring

The implementation of the plan will be overseen by the Ministry of Health, through the NCCU and other stakeholders. Annual progress reports will be produced, and a mid-term review will be conducted in 2027 to adjust strategies as needed. The ultimate goal is to reduce the cervical cancer incidence rate to less than 4 cases per 100,000 women by 2030.

Eswatini Cervical Cancer Elimination Targets

Indicator	Baseline (2024)	2025	2026	2027	2028	2029	2030
Percentage of girls who have received the HPV vaccine by the age of 15 years	72%	90%	90%	90%	90%	90%	90%
Percentage of women aged 25–49 who have been screened with a high-performance test for the first time	< 5%	10%	20%	40%	50%	60%	70%
Percentage of women identified with having pre-cancerous lesions that receive treatment	65%	80%	85%	90%	90%	90%	95%
Percentage of women identified with having invasive cervical cancer that receive treatment	58%	60%	70%	75%	80%	85%	90%

This plan underscores Eswatini's commitment to eliminating cervical cancer and improving the health outcomes of women across the country. With the collaboration of various stakeholders, sustained efforts, and strategic investments, Eswatini aims to become one of the first countries in Africa to achieve cervical cancer elimination goals.

Chapter 1: Introduction

1.1. Global burden of Cervical Cancer

Cervical cancer is the first cancer that can be successfully prevented and treated if detected early. Unfortunately, it is the second most common cancer type after breast cancer and remains the leading cause of cancer death in women. In 2022, an estimated 662,301 women were diagnosed with cervical cancer worldwide and about 348,874 women died from the disease. In low- and middle-income countries (LMICs), including Eswatini, its incidence is nearly twice as high and its death rates three times as high as in high-income countries[1]whereas around one in nine men and one in 12 women die from it. Lung cancer was the most frequently diagnosed cancer in 2022, responsible for almost 2.5 million new cases, or one in eight cancers worldwide (12.4% of all cancers globally

In sub-Saharan Africa almost one out of every four cervical cancer deaths happen in the region. It is estimated that by 2025, about 78,879 women living in Africa will be diagnosed with cervical cancer annually, while 61,671 will die from the disease[2].

Cervical cancer is caused by infection with a high-risk or oncogenic Human Papilloma Virus (HPV), and sub-types 16 and 18 cause approximately 70% of cervical cancer[3]more than 30 infect the genital tract. The association between certain oncogenic (high-risk. HPV can largely be prevented through (a) vaccination of young girls aged 9-14 against HPV, or (b) screening programs followed by immediate treatment of the pre-cancerous lesions, which rely on simple, and easy-to-use tools that can be delivered at the lowest level of health care system.

The most common method used to screen women for cervical cancer has been cytology, also known as the Papanicolau test/ Pap smear, or smear test. In countries with robust health systems, it has led to an average reduction of approximately 2.6% per year in cervical cancer mortality[4]. However, this approach has proven less effective in low- and middle-income countries (LMICs), mainly because of requirements for laboratory infrastructure, equipment, and logistic challenges associated with the screening process; as well as the performance of the Pap test itself, which has shown sensitivity as low as 55%[5,6]. To overcome the limitations of cytology, visual inspection with acetic acid (VIA) and Lugol's iodine (VILI) with digital cervicography is used in many African countries including Eswatini. Although VIA is more affordable than cytology and allows for same-day treatment, its limited accuracy and its subjectivity have resulted in only a modest impact on reducing the cervical disease burden in most affected countries[7].

Newer technologies and approaches, including HPV vaccines, HPV-DNA tests, and a screen-and-treat approach, have been developed and proven to effectively prevent cervical cancer[8, 9,10]. The cost-effectiveness of these prevention strategies is well documented, showing that HPV vaccination coupled with screening is more cost-effective than

either strategy alone[11,12]. Regarding the screening approach, HPV-based screening has shown greater reduction in cervical cancer incidence and mortality compared to other screening tests. If implemented on a large scale, these new cost-effective interventions and approaches have the potential to accelerate reductions in cervical cancer mortality[12,10].

Women living with HIV deserve special attention since they have 6 times higher risk of developing cervical cancer and are more likely to develop it at a younger age[13,14]. Conversely, women infected with HPV are twice as likely to acquire HIV than those without HPV-infection[15,16]. Despite the improved access to HIV care and treatment, screening coverage for cervical cancer prevention for women living with HIV has been low. It is the goal of this document to develop a strategy that accelerate cervical cancer elimination in high-risk groups as well as in the general population.

1.2. Global strategy towards the elimination of cervical cancer as a public health problem.

The global strategy to accelerate the elimination of cervical cancer as a public health problem was developed by WHO in collaboration with member states to accelerate cervical cancer elimination, with clear goals and targets for the period 2020–2030[17]. The strategy proposes a population-based approach that will enable countries to reach global targets for key interventions that, in turn, will lead to elimination of cervical cancer as a public health problem in the next century.

WHO has defined the threshold for elimination of cervical cancer as a public health problem as an age-standardized incidence rate of less than 4 cases per 100,000 women-years. To achieve elimination within a century, the following targets should be met by 2030 and maintained beyond:

90%	70%	90%
Of girls fully vaccinated with the HPV vaccine by 15 years of age	Of women are screened with a high-precision test (HPV DNA test) at 35 and 45 years of age	Of women identified with cervical disease receive treatment and care (90% of women screened positive treated for pre-cancer lesions and 90% of invasive cancer cases managed)

WHO recommends a life-course approach for an effective and comprehensive strategy to cervical cancer elimination, with a simultaneous implementation of these three pillars to achieve a maximum impact. Countries can expect a decrease of cervical cancer mortality as access to treatment of invasive disease improves, coupled with a decrease of incidence resulting from implementation of population-based screen-and-treat programs and vaccination against HPV will offer protection against cervical cancer to future generations[18]cervical cancer elimination is now within reach for high-income countries. Despite limited financing and capacity constraints in low-and-middle-income countries (LMICs.

In the context of this global strategy, countries must develop national strategies for the elimination of cervical cancer and update their guidelines and protocols for the prevention of cervical cancer and for the care and treatment of affected women either with pre-cancer lesions or with invasive disease, adapted to their context.

The Kingdom of Eswatini's National Strategy for acceleration of Cervical Cancer Elimination (2024-2030) is developed in response to the WHO's global initiative to eliminate cervical cancer. This strategy is closely aligned with the WHO Africa Regional Office's implementation framework for the Global Strategy to Accelerate Cervical Cancer Elimination (2020-2030)[19], ensuring a unified and effective national response to address cervical cancer as a public health priority

This critical document highlights and promotes the most efficient, effective and sustainable operational strategies to address cervical cancer following a life course approach.

1.3. The burden of cervical cancer in Eswatini.

According to the 2022 Globocan estimates, there were 1,108 new cancer cases and 697 cancer related deaths. The top 5 most frequent cancers in both sexes were Cervix (417), Breast (106), Prostate (101), Kaposi Sarcoma (96) and Colorectum (37). Cervical cancer is by far the most common cancer representing 37.6% of all new cancers. The same estimates highlight that cervical cancer is the leading cause of cancer mortality with 269 deaths followed by Kaposi Sarcoma (58), Prostate (57), Breast (47) and colorectum together with liver cancer (31)[20].

Data from the National Cancer Registry indicate that 1,118 new cancer cases were registered in Eswatini in 2022, showing an improved cancer detection and recording rate of 16% from 938 cases that were recorded in 2016. Cervical was the most frequent cancer with 354 (31.7%) cases, followed by digestive system cancers with 161 (14.4%) cases, cancers of male and female genitals with 109 and 82 new cases respectively[21].

The incidence of cervical cancer has been gradually increasing overtime, from 332 cases in 2016 to 354 cases in 2022. Compared with estimates from Globocan, there is a high cervical cancer detection rate of 85% (354 diagnosed vs 417 expected/ estimated), probably resulting from ongoing cervical cancer screening efforts. Regrettably, Eswatini faces a common challenge seen in many resource-constrained settings: a significant proportion of cancer patients are diagnosed at an advanced stage. According to 2022 data, a staggering 54% of patients with a known stage at diagnosis presented with stage 3 or 4 cancer[21]. Furthermore, according to the cancer registry data, nearly half of cervical cancer patients (40.8%) are diagnosed at a younger age, just between 20-49 years when women are in their prime and reproductive age working for their families and contributing to the social economic development of the country, highlighting the need for improved early detection and screening initiatives.

Eswatini has the highest HIV prevalence in the world, which also complicates cervical cancer epidemiology. According to the Eswatini Population-based HIV Impact Assessment HIV prevalence among women stands at a staggering 31.6% compared to men at 15.6%[22].

The highest cervical cancer incidence and mortality rates in the world observed in Eswatini, can be attributed to limited access to vaccination, screening and treatment services, risk factors including high HIV prevalence, and social and economic determinants such as sex, gender biases and poverty.

Strategies to address cervical cancer in the country should be comprehensive enough to address barriers to accessing cervical cancer prevention and control health services and as well as addressing underlying risk factors, social and economic determinants.

1.4. Inclusion of cervical cancer prevention and control into national policies and health strategies

The development of the Cervical Cancer Elimination Acceleration Plan in the Kingdom of Eswatini (2024-2030) is shaped by a robust policy framework and strategic initiatives aimed at improving public health outcomes, particularly for women. This section outlines key health policies, strategies, and commitments that influence cervical cancer prevention and control efforts in Eswatini. These frameworks provide a strong foundation for the country's efforts to achieve cervical elimination targets by 2030.

1. National Health Policy 2016 - 2026

Eswatini's National Health Policy provides the overarching framework for the health sector, with a commitment to improving access to equitable, high-quality healthcare services for all citizens. The policy prioritizes maternal and child health, the prevention and control of non-communicable diseases (NCDs), and the strengthening of health systems. Cervical cancer, as a leading cause of cancer-related deaths among women in Eswatini, is a critical area of focus under this policy. The National Health Policy emphasizes integrated service delivery, making it a key driver for

combining cervical cancer screening with other reproductive health services[23].

2. National Health Sector Strategic Plan 2024-2028

Cervical cancer is addressed in Eswatini's National Health Sector Strategic Plan (NHSSP) 2024/25 - 2027/28 as a significant public health issue, especially in the context of women's health and the intersection with HIV. The strategic plan highlights the importance of screening, early detection, and treatment as part of the broader strategy to combat non-communicable diseases (NCDs). Given the high prevalence of HIV in Eswatini, the NHSSP emphasizes the need for integrated services where HIV-positive women receive enhanced cervical cancer screening and follow-up care. This reflects the country's commitment to leveraging its healthcare infrastructure to manage the dual burden of HIV and cervical cancer[24].

3. National Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2021-2023

The National Strategic Plan for the Prevention and Control of NCDs, 2021-2023 in Eswatini outlines a comprehensive approach to reducing the burden of NCDs, which includes cancer prevention and control. Cervical cancer, being one of the most prevalent cancers among women in Eswatini, is addressed as a priority within this strategy. The plan acknowledges the significant impact of cervical cancer on women's health and integrates several specific measures to prevent, screen for, and manage the disease[25].

4. National Cancer Control Plan (NCCP) 2019-2023

The Eswatini National Cancer Control Plan provides a comprehensive framework for cancer prevention, early detection, diagnosis, treatment, and palliative care. Cervical cancer is identified as a priority cancer due to its high incidence and preventability. The plan highlights several key areas for intervention:

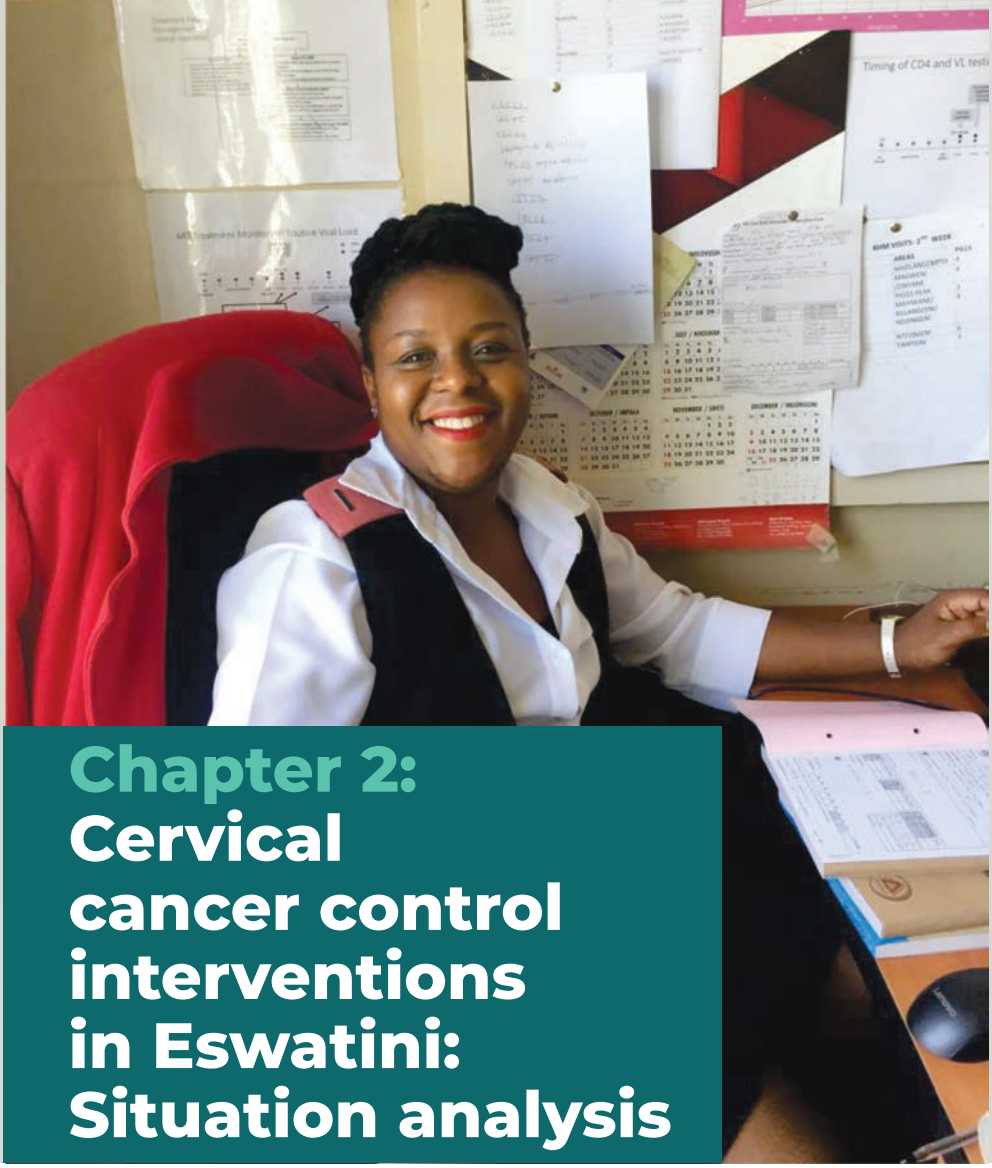
- HPV vaccination for adolescent girls as a primary prevention measure.
- Expansion of cervical cancer screening services through HPV DNA testing, Pap smears, and Visual Inspection with Acetic Acid (VIA).
- Improved access to treatment for pre-cancerous lesions (via cryotherapy and thermal ablation) and cancerous lesions (via surgery, radiotherapy, and chemotherapy).
- Strengthened cancer registries to improve surveillance, data collection, and tracking of cervical cancer outcomes[26].

5. National Strategic Framework for HIV/AIDS 2024-2028

Cervical cancer prevention in Eswatini is closely linked to the country's National HIV Strategic Framework due to the increased risk of cervical cancer among women living with HIV. Women with HIV are six times more likely to develop cervical cancer, making it imperative to integrate cervical cancer screening and treatment into HIV care services. The strategic framework calls for:

- Routine cervical cancer screening for women living with HIV at the time of HIV diagnosis and throughout HIV care, particularly at ART (antiretroviral therapy) clinics.
- Capacity building for healthcare workers to provide integrated services for HIV and cervical cancer, ensuring that HIV-positive women receive timely screening and treatment.
- Community education and awareness programs targeting high-risk groups, particularly women living with HIV, to increase uptake of HPV vaccination and screening services.

The integration of HIV and cervical cancer services aligns with global best practices and strengthens Eswatini's ability to reduce cervical cancer mortality among vulnerable populations[27].



Chapter 2: Cervical cancer control interventions in Eswatini: Situation analysis

In this chapter, we describe the state of implementation of different interventions towards the prevention and control of cervical cancer in Eswatini, guided by recommended priority interventions in the global cervical cancer elimination strategy as well as in the WHO Africa Regional framework for implementation of the Global strategy to accelerate the elimination of cervical cancer as a public health problem for the period 2020-2030[19].

To eliminate cervical cancer as a public health problem and achieve WHO's elimination threshold of an age-adjusted incidence rate lower than 4 cases per 100,000 women-years, countries need to achieve the 90-70-90 coverage targets of HPV vaccination, screening and treatment of precancerous lesions, and management of invasive cervical cancer by 2030, to be on track to achieving elimination in the next century[17]. To achieve the above targets, the following enablers are required: a strong and integrated healthcare system, leadership and governance of the cervical cancer control program, robust M&E and data systems, sustainable financing and strategic partnerships.

2.1. Cancer and Cervical Cancer Control Program: Leadership and Governance

Recognizing the need for a coordinated response to the growing cancer burden in the country, the Ministry of Health of Eswatini established a National Cancer Control Unit (NCCU) in 2019 to provide oversight of cancer control efforts in the country. The NCCU is embedded in the NCDs Cluster within the Clinical Services Directorate of the Ministry of Health. To implement and coordinate different cancer control interventions the NCCU works closely with all levels of health management teams (primary, regional and national) and with different stakeholders including UN Agencies, development and implementing NGOs and civil society organizations.

There also exists a National Cancer Technical Working Group providing technical support and advice to the NCCU for effective implementation of different activities.

The availability of a staff in charge of coordinating cervical cancer care interventions on the structure of NCCU shows a strong prioritization of cervical cancer response in the country.

Figure 1: Implementation arrangements for cancer control activities

Source: NCCU

The above figure summarises the implementation arrangements for cancer prevention and control interventions with the support from different partners. One of the key strengths is the availability of regional coordinators and cancer patients' navigators at regional hospitals and health centres helping patients overcome various huddles in the referral pathway.

2.2. Service delivery: Integration of cervical cancer services into the existing health care system

The delivery of health services in Eswatini is based on the concept of primary health care and consists of three main levels: primary, secondary and tertiary. At the primary level, there are community-based health workers/community motivators, clinics, and outreach services. The secondary level comprises health care centres which offer both outpatient and inpatient services and serve as referral points for the primary level facilities. The tertiary level comprises regional hospitals, specialised hospitals and the National referral hospital and Rehabilitation services.

Cancer prevention and control services are integrated into the existing health care system where there is a defined package of services at each level. Taking the example of cervical cancer, the primary prevention interventions consisting of community awareness and education, HPV vaccination are mainly provided at the community, schools, primary health care facilities and health centres. The screening of cervical cancer and treatment of precancerous lesions services are provided from primary health facilities upwards, where the Vision Inspection with Acetic Acid (VIA), Pap smear sample collection and treatment of simple precancerous lesions are provided at all levels and LEEP treatment and biopsy sample collection are done by trained medical doctors and nurses from health centres up to the referral hospitals. Pap smear and biopsy testing are done at the National laboratory located at Mbabane Government Hospital. The diagnosis and treatment of invasive cervical cancer services are provided at National Referral Hospital with histopathology, surgery and chemotherapy capacity. The newly established specialised NCD hospital, the Manzini Government Hospital, also provides systemic cancer therapies. There are also private and faith-based health facilities in Eswatini providing different cervical cancer prevention and control interventions to complement the efforts of the Government.

Most of the cancer care funds come from the Government budget, while additional funding comes from development partners, the private sector and individuals. In the framework of increasing the financial accessibility to health services, vulnerable groups including cancer patients are exempted from paying user fees at all levels of the healthcare system. In addition, health facility geographical coverage is relatively high with 85% of the population living within 8 km radius of a clinic. Cancer treatment services mainly

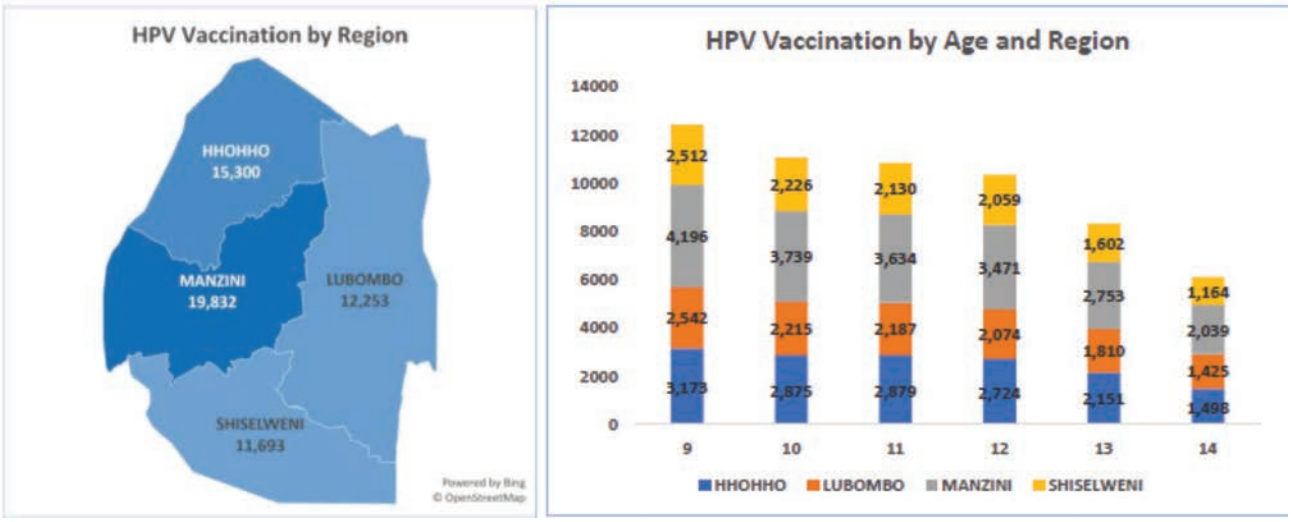
radiation therapy are outsourced in neighbouring countries, mainly South Africa through Phalala Medical Referral Fund.

2.2.1. Cervical cancer prevention

To improve the knowledge, attitude and practices for the population about cervical prevention, community awareness and health promotion interventions are provided through different multimedia platforms including community outreach campaigns, social media, mass media platforms, churches, sport outreach etc. The interventions are mainly supported by government, NGOs and Civil Society Organizations under the coordination of NCCU through the cancer prevention and promotion officer supported by regional cancer coordination officers.

In the efforts to align with the global cervical cancer elimination strategy, the Ministry of Health in collaboration with different stakeholders in 2023, introduced the HPV Vaccination using Gardasil 4 targeting young girls aged 9-14 years through a school-based campaign mode, where 59,078 girls representing 73.1% of eligible population were vaccinated from 12th June 2023 to 11th July 2024.

Figure 2: HPV vaccination coverage by age and region, July 2024



Source: NCCU 2024

Although the vaccination coverage is below the recommended level, 90% to reduce the circulating HPV infections and incidence of the diseases at the population level; these are encouraging results at the introduction of the vaccine.

There is a need to assess the factors related to awareness and vaccines delivery channels that are behind the suboptimal coverage to inform improvement strategies going forward.

The vaccines are procured using the government budget and the partners come in to support the logistics for vaccine delivery. To align with the new WHO recommendations regarding HPV immunization, the Eswatini has decided to move to a single dose vaccine for the general population and two doses for girls living with HIV. The government is also considering including older girls up to 18 years and boys at a later stage.

2.2.2. Cervical cancer screening and treatment of precancerous lesions.

Cervical cancer screening is the second pillar in the global cervical cancer elimination strategy, the WHO recommends prioritizing the screening of women aged 30-49 years old, (starting at 25 years in WLHIV) using a high precision test like HPV DNA test with a goal of reaching a screening coverage of at 70% and at least 90% of women identified with pre-cancerous lesions treated[28].

Since 2019, the Government of Eswatini in collaboration with partners-initiated an opportunistic cervical cancer screening program focusing on WLHIV using VIA and Pap smear at all levels of care including the community clinics. Eligible women are sensitized by community health workers and community-based organisations to go to the health facilities for cervical cancer screening. VIA screening is provided by nurses at community clinics, health centres and regional hospitals. Pap smears are collected at different levels and transported to the Department of Pathology at Mbabane Government Hospital staffed with one cytotechnologist and two pathologists for analysing. The treatment of precancerous lesions is done by Cryotherapy and Thermal ablation at the clinics and health centres and women with extended lesions are referred to the regional hospitals for LEEP and Biopsies. To increase the population screening coverage, community outreach screening campaigns are also conducted by different implementing NGOs. According to the information from NCCU, nearly 90% of health facilities in the country provide cervical cancer screening services.

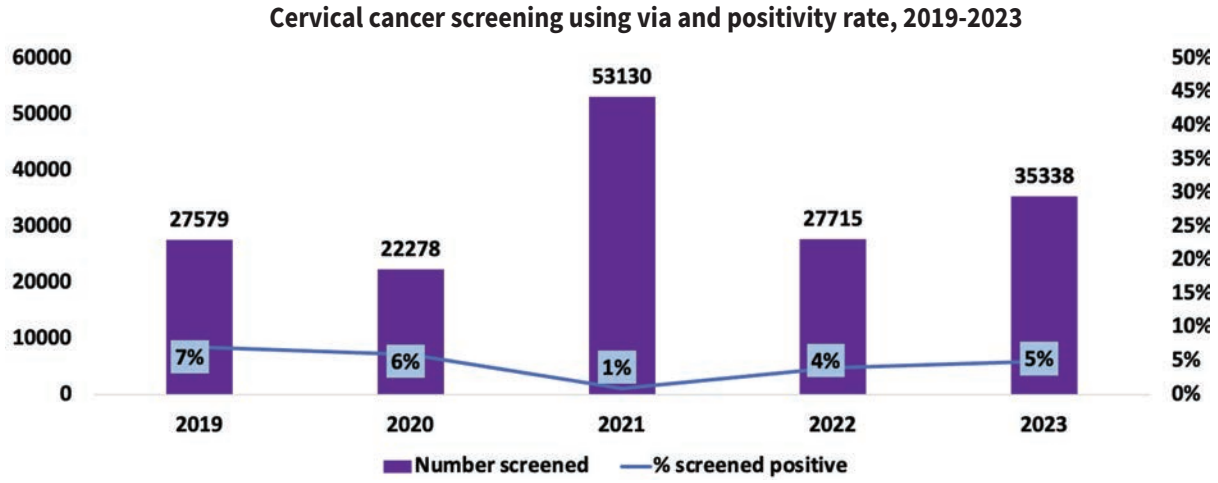
Figure 3: Geographical coverage for cancer screening services (2024)

Source: NCCU 2024

The above geographical coverage is commendable, it constitutes a strong foundation towards achieving the global target number two.

Data from the National Cancer Control Unit, show that over a period of 5 years, 166,040 women have been screened for cervical cancer, representing a coverage of 49% based on the estimated 336,037 women aged between 15-64 years eligible for screening. The current screening strategy is based on sexual exposure not priority age range. A very high coverage was reported by PEPFAR where 117% (39,407/33,786) of women living with HIV aged between 15-49 years by the end of Q4 FY23 and 90% of those identified with pre-cancerous lesions were treated. The very high screening coverage in WLHIV suggests multiple unnecessary yearly screenings highlighting the need of establishing national cervical cancer screening guidelines informed by scientific evidence and WHO recommendations.

Figure 4: Cervical cancer screening in 5 years



Source: NCCU

The above information shows a relatively good cervical cancer screening coverage over 5 years promising the achievement of the screening targets by 2030.

HPV testing based screening strategy as per WHO recommendations is being piloted in few sites with plans to have a national roll out in 2025. This new screening strategy should be prioritized in the next 6 years to align with the global elimination strategy.

2.2.3. Cervical cancer diagnosis and staging.

Cervical cancer diagnosis should be situated within a holistic approach of continuum of care, focusing on building capacity to deliver equitable and quality assured services. Early detection strategies improve cervical cancer outcomes by providing care at the earliest possible cancer stage, offering treatment that is more timely, effective, less costly and less complex.

Histopathology capacity

According to the National Cancer Control Unit, there have been improvements in pathology services overtime; currently, there are two pathologists, one cytologist and three histopathology technicians running the pathology laboratory which has resulted into a significant decrease in turnaround time for pathology results from 4 - 6 months to 10 days when there is no stock out of laboratory reagents. Cervical biopsy samples are mainly taken at health centres, regional hospitals and dispatched to the MGH pathology laboratory for testing.

Despite the above improvements, the percentage of cancer patients with pathology confirmation is still low, just at 65% and most patients are diagnosed at an advanced stage[21]. There is also a need to reduce health system related delays through continuous capacity building for health care providers at primary health care level on cervical cancer screening and prompt referral of patients suspected to have invasive cancer for further investigations and management. The capacity for regional hospitals to perform quality biopsy sample collection and transportation systems to the national laboratory all embedded into an effective digitalized patient navigation system should also be strengthened. The performance for the pathology laboratory at MGH should also be continuously monitored and strengthened to ensure the human resource capacity, equipment and supply of laboratory commodities match with the increasing demand.

Advanced medical imaging capacity

Medical imaging is essential in cancer diagnosis and staging to inform the treatment plan. Computed Tomography scan (CT scan) and Magnetic Resonance Imaging (MRI) are essential in the staging of cervical cancer. In Eswatini, there are two CT scans (one in the public sector, one in the private sector) and one 1.5T MRI in the private sector. According to NCCU, there is only one radiologist practising in the private sector, no radiologist currently working in the public sector which might have an impact on the accessibility to timely advanced medical imaging services for cancer staging given that the available limited medical imaging capabilities are shared across different diseases.

In the light of the above, there is an urgent need to increase access for cancer patients to medical imaging services through availing CT scan machines in regional hospitals, CT scan and MRI at the National referral hospitals; training and recruiting an adequate number of radiologists and radiology technicians to provide timely and accurate radiology reports to patients and clinicians for quick treatment decision making. Private and public partnership models should be explored to quickly fill the existing gap. The Ministry of Health should also consider implementing a radiology information system (RIS), and Pictures and Archiving System (PACS) that could facilitate tele-radiology for remote reporting leveraging experts from neighbouring countries like South Africa.

2.2.4. Management of invasive cervical cancer

The management of invasive cervical cancer mainly involves either surgery or radiation therapy combined with chemotherapy (concurrent chemo-radiation) depending on the stage of the disease at diagnosis. Despite considerable efforts to avail chemotherapy services in two hospitals, the management of cancer and especially cervical cancer is still limited in Eswatini, there is no trained Gynecology oncologist able to perform an accurate clinical staging and quality treatment of cervical cancer; the management is done by few gynaecologists available at regional and national hospitals.

The role of two available medical and clinical oncologists in the management of invasive cervical cancer is limited to advanced cases treated with palliative chemotherapy or temporizing chemotherapy waiting for the surgery or radiotherapy. Given the current epidemiology of cervical cancer where most patients are diagnosed with a local regional disease, concurrent chemoradiation seems to be a cornerstone in the management of cervical cancer in Eswatini. Unfortunately, there is no radiotherapy capacity in Eswatini; a small proportion of cervical cancer patients in need of those services are transferred to South Africa through Phalala Medical Referral Fund.

To achieve the third target (treatment of 90% of patients with invasive cervical cancer) for the global cervical cancer elimination strategy, the Government of Eswatini urgently needs to invest in availing the radiation therapy that will also serve other cancer patients, without continuing relying on referrals to South Africa. The immediate need is to recruit an experienced gynecologic oncologist to start providing a standard treatment to cervical cancer patients and give hands-on training to existing gynaecologists, and at the same time create opportunities for gyne-oncology fellowship training abroad (ex; SA). In collaboration with IAEA, implement the National Radiotherapy Plan that should include two Linear Accelerators and one brachytherapy after loader machine; the training of needed staffs should be initiated as soon as possible, so that they can be available at the completion of the construction of the radiotherapy centre.

2.2.5. Palliative care for cervical cancer patients

Most of the cervical cancer patients in Eswatini are detected at an advanced stage of disease. Therefore, enhancing palliative care services starting at the time of cancer diagnosis is crucial to provide appropriate cancer management. The country has prioritized palliative care services; there is a national palliative care policy, national palliative care guidelines, and training manuals (facilitator and participant manual), children palliative care guidelines, and the updated palliative care strategic plan. The national palliative care guidelines propose palliative care delivery at three levels namely: Community and clinic level, Health centre level, and Hospital level.

According to the Mid-term review for the NCCP, the Ministry of Health in collaboration with implementing partners, has scaled up palliative care services at different levels of the healthcare system including the community where some NGOs provide home-based palliative care services. However, additional efforts need to be deployed to insure improved accessibility to quality palliative care services at different levels of health care delivery.

2.3. Cervical cancer information system

Cervical cancer information is included in the existing cancer information systems. Since 2015, the Ministry of Health established a National Cancer Registry collecting information from various sources across the country. The registry uses CanReg5, the software recommended by IARC for cancer registration. This is a centralised database where cancer registrars perform data abstraction using paper forms and send them to the registry office for entry and analysis. The registry will play a pivotal role monitoring the implementation progress of the cervical cancer elimination plan, especially tracking the reduction in the incidence as well as access to treatment services.

Given that the current cancer registry does not collect information on HPV vaccination and cervical cancer screening, the MOH need to invest in developing a connected digital platform putting together data from the HPV vaccination, cervical cancer screening as well as treatment, this will also help to evaluate the effectiveness of different interventions around cervical cancer prevention and management.

Chapter 3: SWOT analysis for Cervical Cancer Prevention and Control in Eswatini

The table below summarises the Strengths, Weaknesses, Opportunities and Threats for Cervical Cancer prevention and control in Eswatini according to health system strengthening building blocks

Table 1: SWOT Analysis for Cervical Cancer Prevention and Control in Eswatini

Leadership and Governance			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
• A dedicated well-structured Cancer Control Unit at the Ministry of Health with a staff in charge of coordinating cervical cancer interventions • Regional Cancer coordinators overseeing the implementation of cancer control interventions at the regional level • Existence of a functional TWG on cancer, also tackling cervical cancer issues • Decentralised health care system with integration of cervical cancer services into other services (MCH, HIV, TB etc.) • Availability of NCDs Strategy and Cancer Control Plan and HIV strategy integrating cervical cancer • Nuclear energy bill under approval process with a strong collaboration with other Ministries (Tourism and Environmental Affairs, Natural Resources and Energy) • Partners providing technical and financial support for different cervical cancer control interventions.	• Vacant positions in the structure of the National Cancer Control Unit • Inadequate structured referral system for cervical cancer patients and long waiting time for referral • Sub-optimal high level multi sectoral coordination mechanism for cervical cancer response • Inadequate integration of diagnosis and treatment services into other existing services • Limited strong coordination of community activities • No policies and guidelines on integration of cervical cancer interventions in other services	• High political will and support for cancer control interventions • Existence of partners to support the implementation and financing of cervical cancer care interventions • Affiliation to International bodies and organisations supporting cancer response (IAEA, WHO etc.)	• Sustainability of positions in the structure of cancer control Unit supported by Partners • No dedicated budget from the government for NCCU activities

Cervical Cancer prevention and control Service Delivery			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
1. Prevention			
• HPV vaccination for young girls with vaccines procured by the Government with a good coverage above 70% • Integration of HPV vaccines into the existing routine immunisation program • Strong investment of the government in prevention services (personal, training, equipment etc.) • Cervical cancer awareness and education integrated in the service delivery at Primary health care level • Existence of NGOs and CSOs driving cervical cancer prevention activities in the community • Utilisation of different communication channels to deliver awareness messages to the community	• Knowledge of the general population about cervical cancer is still limited • Limited availability of job-aids and awareness materials to use at community level. • Lack of standardised national training guide on cervical cancer prevention	• Collaboration with Ministry of education and other institutions for cervical cancer awareness and HPV vaccination • High primary school attendance, providing a good platform for HPV vaccination • HIV Prevention strategies (e.g Condoms, VMMC) • Integration of HPV vaccination within the existing teen clubs	• Traditional healers and practices & beliefs that may cause avoidance or delay in attending prevention and care and treatment services • Low literacy levels and knowledge gaps in the community • High HIV prevalence in females complicating cervical cancer burden

2. Cervical cancer screening and treatment of precancerous lesions

Strengths	Weaknesses	Opportunities	Threats
• Existence of a VIA and Pap smear-based screening program with a good coverage (facility and population levels) • Decentralised screening services at the primary health care level • Task shifting for the management of extended precancerous lesions (LEEP) to increase the accessibility • Prioritisation of most at risk population; women living with HIV • Strong partners supporting cervical cancer screening initiatives • Initiation of HPV testing-based screening through a phased in approach	• HPV/DNA based screening strategy as recommended by WHO currently not available • Cervical cancer screening guidelines and protocols not aligned with WHO recommendations • Shortage of gynaecologists in different hospitals to train GPs and nurses and perform advanced procedures (Colposcopy, LEEP, Biopsies.) • Lack of organised population based cervical cancer screening program, still implementing opportunistic screening program • No quality assurance system for screening services (VIA, treatment of precancerous lesions, etc.) • Cervical cancer screening services not yet scaled up in all health facilities • Frequent stock out of consumables for VIA and Pap smear • Missed opportunities for cervical cancer screening at facility level due to suboptimal client flow	• Availability of International donors and implementing NGOs to fund and support cervical cancer initiatives • Availability of strong HIV and MCH services providing great platform to integrate cervical cancer screening services • Task sharing of LEEP services to Nurses and GPs • Availability of molecular platforms (Hologic Panther, Cobas 5800, GeneXpert, Atila) that can be leveraged for HPV/DNA testing through diagnostic network optimization strategy	• Competing health priorities with limited resources • Heavy workload and inadequate staffing at the primary health care facilities • Sustainability of screening services heavily funded by donors

3. Cervical Cancer Diagnosis and Staging

Strengths	Weaknesses	Opportunities	Threats
• Existence of a pathology laboratory at the Mbabane Government Hospital • Standardised reporting of cancer as per WHO guidelines with improvement on quality and accuracy of reports. • Standardized gynaecological Pap smears as per Bethesda reporting system, • Existence of a national sample transportation system. • Availability of 1 public and 1 private CT scan in the country helping in the staging of the disease. • Basic radiology investigations like Ultrasound and X-ray • Quality assurance for pathology enrolment with Proficiency Testing (PT) schemes (e.g. Australia,)	• Few and centralised advanced medical imaging machines CT scan and MRI) resulting into a long waiting time to access those exams • Episodes of stock out of laboratory reagents and consumables leading to long turnaround time for results • Lack of advanced medical imaging capabilities (PET scan etc.) • Lack of radiology information system and PACS that could facilitate tele-radiology to overcome the shortage of radiologists • Inadequate maintenance of existing equipment • Critical shortage of qualified staff in diagnostic radiology • Loss to follow-up of clients due to challenges within the referral system	• Existence of public private partnerships that could help to avail quickly missing services • Existence of digital tools and technology for tele-radiology and tele-pathology • Existence of advanced cancer diagnosis and staging services in the neighbouring countries (e.g: South Africa) that can be leveraged to access the missing services in the country • Availability of CMIS and LIS (DISA) that can be linked to provide the results and the turnaround time. • Availability of CT scan and MRI in private facilities	• Overburdened healthcare system due to the high prevalence of other diseases, such as HIV/ AIDS and tuberculosis. • Competition for limited resources within the healthcare system.

4. Invasive Cervical Cancer Treatment and Palliative care

Strengths	Weaknesses	Opportunities	Threats
• Availability of two hospitals providing chemotherapy and surgery to cervical cancer patients • Phalala Medical Referral Funds supporting the treatment abroad for services not available in Eswatini • National palliative care policy, national palliative care guidelines, and training manuals • Existence of a national cancer navigation system • Integration of palliative care services at different levels of the healthcare system including the community where some NGOs provide home-based palliative care services.	• Lack of radiation therapy facility in the country, key for cervical cancer management • Lack of oncology ward at MGH and no dedicated palliative care beds allocated in the other regional hospitals. • Long waiting time to access the treatment due to limited treatment capacity in country • Existing cervical cancer treatment and palliative care guidelines need revision • Limited accessibility to referrals abroad for radiation therapy • Unavailability of social workers within the hospitals • Limited availability of Morphine for adequate pain management • No tumour boards and MDTs at facility level as well as nationally	• Neighbouring country (South Africa) with advanced oncology capacity helping to provide missing services in the country • Private Public Partnership to speed up the establishment of missing treatment services • Partners supporting the provision of palliative care services • Swati nationals sent for oncology training (clinicians).	• Overburdened healthcare system due to the high prevalence of other diseases, such as HIV/ AIDS and tuberculosis. • Competition for limited resources within the healthcare system. • Expensive cancer treatment services

Cancer Health Workforce/Human Resources			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
• Two pathologists and one cytologist and three histotechnicians running the pathology laboratory • Availability of one medical oncologist and one clinical oncologist supporting in the management of cervical cancer patients • Availability of four oncology nurses and trained pharmacists supporting the provision of chemotherapy to cancer patients • Availability of trained health providers at different levels of the healthcare system providing HPV immunisation and cervical cancer screening services. • Training community health workers educating the community about cervical cancer prevention. • Health Sciences Schools training a good range of staff needed in cancer care	• Shortage specialised personnel in cancer diagnosis, staging and treatment • Lack of a gynecologic oncologist in the country of quality cervical cancer management • Insufficiency of in-country training programs for key needed staff in cervical cancer management. • Insufficiency of HR capacity (number, training and deployment) at primary health care facilities and community.	• Availability of few oncology specialists to help training and mentor local staff • Existence of in-country health science schools that could be used to initiate in-country training for medical doctors, residents and fellowships training programs in cancer care • Neighbouring country (South Africa) with advanced capacity that could help to train and mentor local staff • International partners willing to support the training of needed cadres • Availability of Medical doctors that could be trained within and outside the country	• Expensive training programs abroad • Existing risk of not returning in the country at the end of the training program

Cancer Medical Products, Vaccines and Technologies			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
• Cancer and palliative care drugs on Essential Medicine List (EML) • The supply chain of oncology and palliative care drugs integrated in the national drugs supply chain system • HPV vaccines procured using the government budget • Availability of CT scan, Ultrasound, X-ray machines for cancer diagnosis and treatment • Availability of cancer systemic therapy drugs	• Episodes of stock out of cancer drugs • Lack of advanced equipment for cancer diagnosis and treatment (eg. PET Scan, Radiotherapy machines etc.) • No structured system for procurement of Acetic Acid	• Private sector support in availing missing advanced cancer diagnosis and treatment equipment • Explore third-party agreement (through pooled procurement) to purchase cervical cancer drugs at a lower rate. • Existing partners (eg. Taiwan Medical Mission) supporting the procurement of missing equipment and drugs • Clinical trials with possibilities of availing medicines and equipment and technologies	• High cost for cancer drugs • High cost for establish advanced cancer diagnosis and treatment technologies • Competing priorities in the health sector with limited budget

Health System Financing			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
• Cervical cancer prevention and control services are covered by the government budget and provided free of charge to patients • Phalala Medical Referral Funds supporting patients accessing services in private and abroad for services not available in Eswatini	• Insufficient budget allocated to cancer prevention and control services including laboratory • Insufficient funds for Phalala Medical Referral fund to cover all in need • No budget allocated to NCCU for different prevention and control interventions	• Well-funded infectious diseases programs (eg. HIV), that can serve as platform for providing integrated cancer/ cervical cancer screening and treatment services • Existence of strong International and National Non-Governmental Organisations supporting the Government financing cancer care services • Public Private Partnership (PPP) act available • Plans to establish National medical insurance schemes covering cancer care services	• Competing priorities in the health sector with limited budget • Cervical cancer screening and treatment services highly depending on donors with a risk of sustainability • Expensive cancer treatment services provided abroad

Cancer Information System			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
• Population Based National Cancer Registry collecting information on cancer incidence and mortality • Cervical cancer indicators and data included in the HMIS • Cancer strategic information and surveillance staff on the structure of National Cancer Control Unit • Client management information system (CMIS) with HPV vaccination, cervical cancer screening and treatment modules	• Limited oncology research capacity • No standard SOPs and requirements for cancer to inform CMIS • Data capturing at community level is not standardised • Insufficient resources for system maintenance and management • Policy regulating documentation of patient's level data • No unified data collection and reporting across public and private facilities • Dissemination and sharing of research findings	• Availability of Electronic Medical record systems that can be upgraded to interconnect cervical cancer vaccination, screening and treatment • CMIS plus in pilot phase (offline version) • Availability of many research topics in oncology	• High reliance on donor support • Donor driven data systems

Chapter 4: The Cervical Cancer Elimination Strategic Framework

4.1. Vision, Mission and Goal

Vision: The Kingdom of Eswatini free of cervical cancer as a public health problem.

Mission: To provide equitable access to cost-effective and quality preventive, promotive, curative, rehabilitative and palliative cervical cancer care services to enhance the well-being of the population in Eswatini.

Goal: To achieve the 90-70-90 targets of global strategy for the cervical cancer elimination by 2030.

The strategy is designed to drive meaningful change through three key outcomes: a significant reduction in HPV infection rates, a decrease in cervical precancerous lesions among women, and a substantial decline in invasive cervical cancer incidence and mortality. The ultimate goal is to achieve a sustained cervical cancer incidence rate of less than 4 cases per 100,000 women, transforming the health landscape for generations to come

4.2. Guiding Principles in Cervical Cancer Elimination

The following guiding principles as adapted from the WHO Africa Regional framework[19], will guide all stakeholders throughout the implementation of the elimination plan.

- **Leadership and accountability:** Elimination of cervical cancer as a public health problem in the Kingdom of Eswatini relies on strong political will, government leadership, ownership, investment and accountability at the national regional, facility and community levels.
- **Human rights, gender and equity**: All cervical cancer prevention and control interventions should be based on promoting human rights, gender and equity in accessing health care and other essential social services.
- **Evidence-based and forward-looking actions**: The interventions proposed in this framework are up to date and evidence based (including research), to ensure high-quality and effective policies and services.
- **Life-course-based:** Health education to all age groups, vaccinating girls 9 to 14 years old and boys aged 14 years, screening women for precancerous lesions, and treatment before progression to invasive disease

- **Community engagement and participation**: Emphasis on the implementation of this framework should be placed on community-based interventions, ensuring active community participation and ownership by local municipalities, constituencies (*tinkhundla centers*), chiefdoms, civil society, in particular women's associations, local leaders, religious leaders and individual citizens.

- **Multisectoral and multidisciplinary approaches**: Broad partnerships (including public and private partnership), multisectoral and multidisciplinary coordination mechanisms and integrated approaches are critical for the successful implementation of the framework.

- **Funding sustainability**: Sustaining interventions requires mobilisation and proper allocation of domestic and international resources. For long-term sustainability, the financing of cervical cancer interventions should be supported from domestic resources.

- **Cross-border collaboration**: To achieve the elimination target, cross-border collaboration with neighbouring countries to share best practices and provision of service is important.

- **Integration into the existing health system**: In the framework of reducing missed opportunities, promoting efficiencies and sustainability, the delivery cervical cancer prevention and control services should be integrated into other existing services mainly maternal and child health services, HIV services as well as laboratory systems.

- **Integration of cervical cancer prevention and control interventions with HIV services**: Integrating HIV and cervical cancer services will be a key focus in this cervical cancer elimination strategy, particularly in Eswatini where both HIV prevalence and cervical cancer rates are high.

  The strategic integration will involve all levels of the health care system from joint planning, monitoring and evaluation between HIV and Cancer programs at the Ministry of Health through implementation of integrated services at the planning at the health facilities. This integration will ensure that HPV vaccination, regular screening through Pap smears, VIA, and HPV DNA testing, and treatment for pre-cancerous lesions are offered alongside HIV treatment in antiretroviral therapy (ART) clinics. The integration will streamline healthcare delivery, reduces missed opportunities for early detection, and leverages existing HIV healthcare infrastructure. Additionally, this approach will strengthen the capacity of healthcare workers by training them to provide both HIV and cervical cancer care, while also reducing stigma and enhancing awareness at community levels.

4.3. Cervical Cancer Elimination Strategic Objectives

The reduction of cervical cancer incidence and related mortality will be achieved through implementing the following strategic objectives by 2030:

i. To improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services

ii. To scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030

iii. To increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030

iv. To improve access to early diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030

v. To enhance capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research

vi. To promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer response

4.3.1. Improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services

The goal of this strategic objective is to ensure robust national and regional governance mechanisms to efficiently and effectively fulfil the national commitment to cervical cancer elimination goals, strategic priorities, and actions as outlined in the elimination plan. It is also imperative to promote the quality of services across all levels of delivery of cervical cancer prevention and control services.

Priority area 1: Improve health systems governance and coordination for effective coordination and implementation of cervical cancer elimination plan

Priority interventions:

- Increase the capacity of the National Cancer Control Unit (NCCU) for the coordination of the cervical cancer elimination through filling vacant positions with specified roles and responsibilities within the NCCU organogram
- Establish a multidisciplinary national cervical cancer elimination task force to provide the technical support and guidance to the NCCU in the implementation of the elimination strategy
- Establish regional level coordination committees to strengthen the governance of cervical cancer services delivery.
- Assess the capacity building needs for the existing NCCU team and provide tailored training opportunities to ensure they have the required capacity to coordinate the implementation of the plan.
- Assess the staffing, infrastructure and equipment capacity of health facilities to provide cervical cancer elimination interventions according to the national standards

Priority area 2: Promote the quality of cervical cancer care services at all levels of the healthcare system

Priority interventions:

- Develop a standardised package of services for cervical cancer prevention of control at all levels of healthcare system
- Establish an accreditation system for cervical cancer prevention, screening, diagnosis, treatment and palliative care and survivorship services at different levels of the healthcare system
- Develop and implement a quality assurance system for cervical cancer screening, diagnosis and treatment services
- Initiate a performance-based financing (incentivization) system to reward high performing health facilities focusing on cervical cancer quality care indicators.
- Develop and implement an integrated care model for cervical cancer prevention and control services into existing health care system focusing on maternal and child health, and HIV services.

4.3.2. Scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030

The goal is to achieve and maintain HPV vaccination coverage high at 90% in young girls between 9 and 14 years old. Evidence-based communication and social mobilisation efforts will be required for various target audiences to overcome vaccine hesitancy. Strategies should be put in place to address adverse events with rapid response plans or crisis communication plans and to counter misinformation that may happen.

To strengthen primary prevention, the following Priority interventions will be carried out:

Priority area 1: Community awareness, information and education about cervical cancer prevention.

The goal is to mobilise the community towards supporting the implementation of cervical cancer elimination and improve community

understanding of the role of all interventions including HPV vaccination, cervical cancer screening and tertiary prevention.

Priority interventions:

- Develop and review existing cervical cancer communication materials and messages to ensure the content is tailored to the needs and context for different groups of the population including healthcare workforce, non-governmental organisations, patients, men, women, adolescents, youth, sex workers, …
- Conduct community awareness campaigns to sensitize the public on the prevention of cervical cancer across the four regions of the country
- Build the capacity of media personnel, teachers and health workers in effective messaging of cervical cancer prevention messages
- Engage and educate volunteer community health workers and community leaders to educate and rally support within local communities toward cervical cancer elimination.
- Engage and capacitate cervical cancer survivor groups and women advocacy groups to promote awareness and demand initiatives on cervical cancer prevention and screening ensuring timely access to treatment services.
- Educate traditional and social media, including local celebrities, champions, and social media influencers, to effectively run public education campaigns and disseminate cervical cancer information widely.

Priority area 2: Optimize the coverage for HPV vaccination in young girls

The aim is to reach HPV vaccination coverage of at least 90% in young girls aged 9-14 years. This will be achieved through securing an adequate budget for vaccine procurement, creating robust and diversified delivery channels for the vaccines as well as addressing existing myths and misconceptions around HPV vaccination. The shift from two doses to single dose HPV vaccination would accelerate the achievement of the optimal vaccination coverage using fewer resources.

Priority interventions:

- Plan for and ensure an adequate budget to procure HPV vaccines and consumables as part of the overall national cervical cancer elimination commitment.
- Strengthen the supply chain systems (procurement, storage and distribution) for HPV vaccines and related consumables
- Ensure multi-stakeholder and inter-sectoral government commitments for the nationwide rollout and implementation of the HPV vaccination program.
- Conduct social mobilization for HPV vaccination including public awareness events and community sensitization meetings.
- Implement school-based vaccination as the main delivery strategy, and explore additional delivery platforms for out-of-school or other hard-to-reach populations
- Review and update the national HPV vaccination guidelines and SoPs informed by scientific evidence on HPV vaccine effectiveness
- Establish a digital vaccine delivery monitoring system including documenting and reporting of adverse events following immunisation.

2.3.3. To increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a coverage of 70% and 90% treatment of pre-cancerous lesions by 2030

The goal of cervical cancer screening is to identify and treat pre-cancerous lesions that are likely to progress to invasive cancer stage. Regular screening can also support the diagnosis of cervical cancer at an early stage, when treatment is typically more effective and less invasive. Preventing the development and progression of cervical cancer is critical to reduce incidence and related morbidity and mortality.

Based on WHO recommendations, HPV co-testing with VIA/Pap Smear will be used as a screen and treat approach. Where HPV DNA testing for cervical cancer screening is not available, VIA

and Pap smear will be offered with the aim of developing the health system capacity and moving to population-based screening with HPV testing at the earliest opportunity.

Thermal ablation devices quicker and easy to use will be prioritised over cryotherapy machines that have many operational challenges.

With a target to reach a screening coverage of at least 70% in women aged 25 to 49 (starting at 25 years old in WLHIV) years old using a high-performance test and treatment of at least 90% of women with precancerous lesions, the following priority interventions will be carried out.

Priority area 1: National standard guidelines and protocols for cervical cancer screening

Priority interventions:

- Review and update relevant clinical and programmatic guidelines and protocols on cervical cancer screening and treatment of precancerous lesions in line with WHO recommendations
- Review on bi-annual basis local and international scientific evidence on current methods for cervical cancer screening and update the guidelines accordingly

Priority area 2: Increase the quality and coverage of cervical cancer screening services

Priority interventions:

- Develop and implement the community mobilisation strategies involving CHWs, CSOs, Cancer survivors, Traditional leaders, Celebrities, Religious leaders to sensitize and link eligible women to cervical cancer screening services.
- Build the capacity for health care providers at all levels on updated cervical cancer screening guidelines and protocols (Nurses, Midwives, Clinical Officers, Medical Officers, Gynaecologist, laboratory scientists...) in the framework of scaling up cervical cancer services in all health facilities
- Integrate cervical cancer screening and treatment of precancerous lesions in the pre-service training curriculum for nurses, midwives, clinical officers and medical officers.
- Capacity building for midwives, clinical officers and medical officers in colposcopy and LEEP for treatment of advanced cervical cancer lesions in the framework of task shifting
- Carry out regular clinical mentorship at all levels of the cervical cancer screening services delivery to ensure the quality of services is maintained.
- Strengthen the referral and linkage to care for women with pre-cancerous lesions for non-treatment sites
- Integrate and strengthen HPV and biopsy sample transportation from the collection sites to the testing sites within the existing National Sample Transportation System and results feedback mechanisms.
- Strengthen the referral and linkage to care for women suspected or confirmed to have cervical cancer to ensure timely diagnosis and treatment.
- Strengthen integrated delivery of cervical cancer screening services with women's health services, (e.g: HIV, breast cancer, and other cancer and non-communicable diseases screening activities.
- Use digital solutions in the delivery of cervical cancer screening services (invitation of women to get screened, for registration, delivery of the results, and follow up)
- Adopt new technologies like Artificial Intelligence (Automated Visual Evaluation) as they are approved for use in clinical practice
- Establish quality assurance system for HPV testing, VIA and treatment of precancerous lesions

Priority area 3: Ensure an affordable supply of quality-assured, HPV/DNA test kits, screening consumables, equipment and materials

Priority interventions:

- Plan and ensure an adequate budget to procure HPV testing tests kits in accordance with the cervical cancer elimination implementation plan.

- Equip health facilities with required equipment and materials to provide cervical cancer screening services based on the need and level of care. These materials include specula, thermal ablation devices, LEEP machines, Colposcopes, Biopsy kits, etc.
- Ensure an uninterrupted supply of needed consumables for health facilities to conduct cervical cancer screening services including VIA, Pap smear, LEEP consumables.
- Ensure a regular maintenance of cervical cancer screening and treatment of precancerous lesions materials and equipment

4.3.4. Improve access to diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030

Accurate diagnosis and timely access to effective treatment, including palliative care and rehabilitation, will improve outcomes and quality of life of women with cervical cancer. It is important to assess the specific barriers that limit access to safe, quality, effective, and affordable cancer services by working towards universal health access and coverage that include diagnosis, treatment, rehabilitation, palliative care and survivorship services. Cancer treatment can exert a significant psychological and financial impact on women and their families, a factor that should be considered when improving access and coverage of cervical cancer services. The goal is to provide quality management based on the national guidelines and protocols to at least 90% of patients with invasive cervical cancer.

To improve access to cervical cancer diagnosis, treatment, rehabilitation, and palliative care, the following priority interventions will be carried out:

Priority area 1: National standard guidelines and protocols for diagnosis and treatment of cervical cancer

Priority interventions:

- Review and update standardised clinical and programmatic guidelines and protocols for cervical cancer diagnosis and treatment in line with local and international evidence-based interventions and WHO recommendations.
- Conduct the capacity building for health care providers on the new cervical cancer diagnosis and treatment guidelines and protocols
- Review on bi-annual basis local and international scientific evidence on current methods for cervical cancer treatment and update the guidelines accordingly
- Promote the establishment and functionality of multidisciplinary tumour boards in health facilities diagnosing and treating cancer to foster the quality of care.

Priority area 2: Improve equitable access to pathology and medical imaging services for cervical cancer patients

Priority interventions:

- Strengthen the cervical cancer sample collection and transportation system from regional hospitals to the national reference laboratory and establish an efficient results feedback mechanism
- Strengthen the Pathology laboratory team by training existing personnel and recruiting additional Pathologists and cytologists to satisfy the increasing demand.
- Ensure uninterrupted supply of laboratory consumables and regular maintenance of equipment
- Strengthen existing quality assurance and control mechanisms to ensure the quality of reported results and attain accreditation from SADCAS (Southern African Development Community Accreditation Service).
- Increase access to medical imaging services for timely staging of cervical cancer patients through:
    - Availing CT scans at regional hospitals and MRI at National referral hospitals
    - Performing regular maintenance and calibration of existing medical imaging equipment.
    - Negotiate an affordable price for diagnostic imaging services with private radiology providers for cancer related conditions.

- Recruit medical imaging professionals for radiology departments without radiologists and capacitate existing radiographers on CT and MRI sub-speciality
- Establish tele-radiology systems for remote reporting to facilitate quick staging and timely initiation of the treatment

Priority area 3: Improve equitable access to quality cervical cancer treatment services: Surgery, radiation therapy and systemic therapy

Priority interventions:

- Recruit Gyn-oncologists, to provide quality management to cervical cancer patients, capacitate existing gynecologists and general practitioners on gyne-oncology management.
- Upgrade the cervical cancer surgical capacity at existing tertiary facilities by providing adequate space (theatres, beds including ICU), surgical equipment and human resource
- Establish a National Radiotherapy Center at Manzini Cancer Hospital to enable the provision of comprehensive cancer treatment services in the country.
- Strengthen the supply chain for cervical systemic therapy drugs and related consumables
- Advocate for the prioritisation of cervical cancer patients in the referral systems and within the Phalala medical fund to ensure timely access to curative treatment
- Strengthen patient's navigation by recruiting and appointing more cancer patient navigators and facility-based cancer champions where they are missing.
- Strengthen cervical cancer patients' referral pathway to reduce health system related delays to access diagnosis and treatment services

Priority area 4: Improve access to palliative care, rehabilitative and psychosocial support services for cervical cancer patients

Priority interventions:

- Strengthen the integration of palliative care services into existing health care systems including the community and home-based care programmes.
- Strengthen the psychological, social, nutritional and spiritual support services to provide holistic care to patients and their families
- Optimize morphine supply through needs assessment, strengthened procurement, and streamlined distribution to ensure consistent access to adequate pain management for all cervical cancer patients

Priority area 5: Workforce development for cancer and cervical cancer care

Priority interventions:

- Train adequate number of staff for quality cervical cancer management as per the existing national cancer care training plan.
- Establish government partnerships with international institutions to facilitate the urgent training of healthcare workers in related oncology fields.
- Strengthen existing platforms for continuous medical education and ensure the inclusion of cervical cancer in the training curriculum.

4.3.5. Enhance the capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research

The establishment of robust surveillance and monitoring systems for cervical cancer interventions at both national and subnational levels will continuously inform the program implementation and guide the development and revision of policies, procedures.

Connected HPV vaccination, screening and treatment data can further support clinical and policy decision making by providing a

comprehensive overview of access to cervical cancer interventions and their outcomes at the individual and population level, assisting program managers in recognizing gaps and introducing targeted actions to improve coverage, quality, and outcomes. Implementation research should also be prioritised to supplement the routine M&E systems thus generating additional evidence to guide a faster elimination of cervical cancer in Eswatini

Priority area1: Strengthen the capacity of the existing HMIS and CMIS to generate high quality data on cervical cancer programs across the continuum of care

Priority interventions:

- Build the capacity of health care providers and data manager officers at all levels in M&E of cervical cancer elimination plan
- Update the existing indicators into CMIS to include missing cervical cancer elimination indicators
- Conduct regular clinical mentorship and supportive supervision at all levels of healthcare delivery to improve the quality of reported data.
- Conduct quarterly cervical cancer data quality audits, data reviews at all levels of the healthcare system.
- Conduct annual national cervical cancer symposium putting together key stakeholders to review and share the progress of the implementation of the elimination plan

Priority area 2: Establish a national cervical cancer elimination digital platform and enhance the national cancer registry.

Priority interventions:

- Review and enhance the CMIS to collect inter-connected information on HPV vaccination, Screening and Cervical cancer to enable tracking uptake of interventions throughout the continuum of care
- Explore the use of DHIS2 tracker in cancer registration to enable reporting of individual cancer cases and reduce the budget and time used in active data abstraction and recording
- Increase the staffing capacity for the National Cancer Registry for timely data collection and reporting

Priority area 3: Promote cervical cancer research to better inform cervical cancer elimination strategy

Priority interventions:

- Develop and implement a national cervical cancer research agenda prioritising implementation science economic and financial studies as well as clinical trials.
- Build the capacity of existing teams at NCCU, RHMT and Stakeholders in conducting cervical cancer research
- Mobilise research funds to support researchers with outstanding cervical cancer research projects through a competitive process.
- Organise bi-annual national cervical cancer research conference including regional and international researchers to share best practices and new evidence in the field of cervical cancer prevention and control.

4.3.6. Promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer response

The commitment to eliminating cervical cancer involves an effective collaboration, and coordination of many stakeholders including healthcare workers, professional associations, community partners, international development partners, private sector, and the patients themselves joining efforts for the common cause.

The elimination of cervical cancer is an ambitious goal that requires adequate and sustainable financing from domestic and international sources.

This objective puts forward strategies that encourage knowledge sharing and collaboration amongst stakeholders as well as lasting funding mechanisms for the cervical cancer elimination strategy.

Priority area 1: Promote a whole-of-society commitment to cervical cancer elimination through intersectoral collaboration and partnerships

Priority interventions:

- Establish a high level multi sectoral committee including key public institutions, private sector, international and national NGOs, Faith based organizations, academia... serving as platform for cervical cancer elimination dialogue
- Mainstream cervical cancer prevention and control into different sectors as a cross-cutting issue where all relevant institutions should implement minimal interventions around the elimination of cervical cancer
- Develop an online cervical cancer elimination information platform serving as an updated repository for information for providers, patients, and partners on cervical cancer elimination policies, programs, and services.

Priority area 2: Secure sufficient and sustainable funding for the implementation of the cervical cancer elimination strategy

Priority interventions:

- Increase domestic funding for the sustainability of cervical cancer prevention and control interventions and develop a resource mobilisation plan for domestic and international resources.
- Create a cervical cancer elimination challenge fund and mobilise domestic and international funders to channel the resources for elimination interventions
- Promote Public and private partnerships in establishing specialised services for cancer/ cervical cancer diagnosis and treatment

Chapter 5: Costing for the National Cervical Cancer Elimination Plan

The costing analysis outlines the estimated financial resources required to implement the strategy from 2024 to 2030. It includes direct costs for scaling up HPV vaccination programs, particularly for girls aged 9-14 (the procurement of vaccines not included here as the vaccines are procured through MCH program), expanding the coverage of screening programs for women aged 30-49, and increasing treatment capacity for pre-cancerous lesions, diagnosis and staging as well as the management of cervical invasive cancer.

The costs are also broken down into capital investments, such as upgrading healthcare facilities, purchasing essential diagnostic and treatment equipment, and enhancing laboratory capacity for Histopathology and establishment of the first National Radiotherapy Centre with two linear accelerators and one brachytherapy unit.

The strategy also allocates resources for healthcare workforce development, ensuring that healthcare providers are trained to perform screenings, diagnose cervical cancer, and treat pre-cancerous and invasive lesions. This includes in service of training nurses, midwives, and doctors across the country, the speciality training programs gave been also included to get well trained healthcare professionals providing quality treatment to women with invasive cervical cancer. Additionally, the costing includes logistical and operational costs, such as transportation of vaccines, test kits, and medical supplies, as well as costs for ensuring data collection, monitoring, and evaluation of program outcomes.

Public awareness campaigns and community outreach activities are vital components of the strategy, with associated costs for media campaigns, education materials, and mobilizing community health workers to increase uptake of vaccination and screening services. The strategy also considers financial protection mechanisms, ensuring that all women, particularly the most vulnerable, have access to these services without financial hardship, in line with Eswatini's commitment to universal health coverage (UHC).

5.1. Costing methodology

The costing exerise used Activity-Based Costing methodology which involved identifying all activities required to implement the strategy and then assigning costs to each activity based on the quantity, frequncy and unit cost. The goal was to provide a detailed and accurate estimation of financial needs, ensuring that resources are allocated efficiently to achieve the desired outcomes.

Key Steps undertaken

1. **Identification of core activities:** All key interventions and activities under the strategy were first identified according to priority areas and interventions. These include HPV vaccination, screening programs, treatment of pre-cancerous lesions, cancer treatment services, public awareness campaigns, training of healthcare workers, infrastructure development, and monitoring and evaluation.
2. **Resource mapping:** Each activity is broken down into specific tasks/subactivities, and the resources required to carry out these tasks are mapped. Resources include personnel, supplies, equipment, transportation, and infrastructure depending on the nature of the activity.
3. **Unit costs:** The unit cost of each resource is calculated. This includes costs such as personnel wages, equipment prices, transportation fees, and costs of medical supplies like vaccines, screening kits, or diagnostic equipment. The units costs were obtained from the Ministry of health unit cost databased, where the local unit cost were missig, we used global estimates from CHAI (cervical cancer screening equipment and consumables) and International Agency for Research on Cancer (IAEA) especially for setting up radiotherapy servives and specialised human resource capacity building.
4. **Quantification of inputs:** The volume of resources required is determined based on target population estimates, coverage goals, and frequency of services. For example, the number of women to be screened annually is quantified based on the estimated number of women with eligible for cervical cancer screening in the general population from the statistics office.
5. **Cost aggregation:** For each activity, the total cost is calculated by multiplying the unit cost of each task by the quantity needed and the annual frequency. These costs are then aggregated for each core intervention.
6. **Time horizon and scaling:** The total costs are projected over the 2024-2030 timeframe, accounting for **scaling up** services over time to meet coverage targets, such as achieving 90% HPV vaccination, 70% screening, and 90% treatment coverage. The costing methodology did not account for inflation, resource price changes, and operational adjustments over time; these will be addressed while doing annual budgets.
7. **Capital and recurrent costs:** The costing included capital investments (e.g., equipment purchases, infrastructure upgrades) and recurrent costs (e.g., new key personnel salaries, HPV tests procurement, trainings/ workshops etc.)

5.2. Summary costing results

Overall, the total cost of implementing the Cervical Cancer Elimination Strategy from 2024 to 2030 is estimated to be **636,409,385 million Emalangeni** (SZL), with funding expected to come from Government budget, International Partners, Donors, Local NGOs and CSOs. This investment is seen as a crucial step toward reducing the long-term burden of cervical cancer and improving women's health outcomes. The role of private sector should also be highlighted mainly in partnering with the government establishing misiing key diagnostic and treatment services

It is important to note that over 50% of total cost are one time capital investment intended to avail missing diagnostic (CT scans and MRIs) and treatment services (radiotherapy) that will not only be used for cervical cancer but serving for other cancers and other conditions as well. Cervical cancer elimination will help to improve the care and treatment for other cancers and strehthen the health care system in general.

5.2.1. Summary cost per strategic objective

The total estimated budget over seven years amounts to **E636.4 million**, allocated across six strategic objectives

Table 2: Summary cost per strategic objective

Strategic Objectives	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total Cost	%
Strategic Objective 1: Improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services	696,250	3,185,663	2,248,439	2,143,439	2,143,439	2,143,439	2,143,439	14,704,108	2.3%
Strategic Objective 2: Scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030	7,639,249	9,952,179	9,022,179	9,056,679	9,022,179	9,056,679	9,056,679	62,805,824	9.9%
Strategic Objective 3: To increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030	172,800	37,628,173	31,537,600	12,471,987	7,219,713	7,366,323	7,466,323	103,862,919	16.3%

Strategic Objectives	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total Cost	%
Strategic Objective 4: To improve access to diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030	4,619,150	97,512,361	84,595,932	199,921,528	22,452,002	18,086,098	17,863,098	445,050,170	69.9%
Strategic objective 5: Enhance the capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research	93,150	3,089,294	2,225,044	658,844	1,307,844	658,844	1,307,844	9,340,864	1.5%
Strategic Objective 6: Promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer response	-	593,000	10,500	10,500	10,500	10,500	10,500	645,500	0.1%
Grand Total	**13,220,599**	**151,960,670**	**129,639,694**	**224,262,977**	**42,155,678**	**37,321,884**	**37,847,884**	**636,409,385**	**100%**

The majority of the funding is directed toward improving **access to diagnosis, treatment, and palliative care (69.9%),** which reflects the focus on upgrading the capacity to diagnose and treat invasive cervical cancer. Other key areas of investment include: **Scaling up HPV immunization (9.9%)** to achieve 90% coverage among girls aged 9-14 years and expanding **cervical cancer screening services (16.3%)** to reach 70% of eligible women and provide treatment for 90% of pre-cancerous lesions.

The highest costs are projected in Year 4, corresponding to peak investment in estblishing new diagnostic and treatment services namely radiation therapy and advanced medical imaging capaciblities, with costs gradually decreasing in the later years as screening and treatment systems are established and scaled.

5.2.2. Summary cost per priority area

The below table provides a detailed breakdown of costs across six strategic objectives and their corresponding priority areas over a seven-year period.

Table 3: Summary cost per priority area

Objectives and priority areas	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total Cost
Strategic Objective 1: Improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services								
Priority area 1: Improve health systems governance and coordination for effective coordination and implementation of cervical cancer elimination plan	665,500	1,654,563	2,248,439	2,143,439	2,143,439	2,143,439	2,143,439	13,142,258
Priority area 2: Promote the quality of cervical cancer care services at all levels of the healthcare system	30,750	1,531,100	-	-	-	-	-	1,561,850
Strategic Objective 2: Scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030								
Priority area 1: Community awareness, information, and education about cervical cancer prevention.	1,633,249	3,505,679	3,016,179	3,050,679	3,016,179	3,050,679	3,050,679	20,323,324
Priority area 2: Optimize the coverage for HPV vaccination in young girls	6,006,000	6,446,500	6,006,000	6,006,000	6,006,000	6,006,000	6,006,000	42,482,500
Strategic Objective 3: To increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030								
Priority area 1: National standard guidelines and protocols for cervical cancer screening	-	254,000	-	100,000	-	-	100,000	454,000

Objectives and priority areas	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total Cost
Priority area 2: Increase the quality and coverage of cervical cancer screening services	172,800	8,494,600	6,011,850	469,600	394,600	394,600	394,600	16,332,650
Priority area 3: Ensure an affordable supply of quality-assured, HPV/DNA test kits, screening consumables, equipment and materials	-	28,879,573	25,525,750	11,902,387	6,825,113	6,971,723	6,971,723	87,076,269
Strategic Objective 4: To improve access to diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030								
Priority area 1: National standard guidelines and protocols for diagnosis and treatment of cervical cancer.	1,074,850	727,000	189,000	216,000	189,000	189,000	216,000	2,800,850
Priority area 2: Improve equitable access to pathology and medical imaging services for cervical cancer patients.	33,000	55,893,013	33,869,021	74,189,692	7,308,453	7,558,453	7,308,453	186,160,084
Priority area 3: Improve equitable access to quality cervical cancer treatment services: Surgery, radiation therapy and chemotherapy systemic therapy.	75,000	27,532,902	28,119,637	100,260,635	7,008,987	7,008,987	7,008,987	177,015,136
Priority area 4: Improve access to palliative care, rehabilitative and psychosocial support services for cervical cancer patients.	3,436,300	3,402,388	3,329,658	3,329,658	3,329,658	3,329,658	3,329,658	23,486,978
Priority area 5: Workforce development for cancer and cervical cancer care	-	9,957,058	19,088,616	21,925,544	4,615,904	-	-	55,587,122

Objectives and priority areas	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total Cost
Strategic objective 5: Enhance the capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research								
Priority area1: Strengthen the capacity of the existing HMIS and CMIS to generate high quality data on cervical cancer programs across the continuum of care	93,150	624,100	624,100	207,800	207,800	207,800	207,800	2,172,550
Priority area 2: Establish a national cervical cancer elimination digital platform and enhance the national cancer registry	-	2,152,694	451,044	451,044	451,044	451,044	451,044	4,407,914
Priority area 3: Promote cervical cancer research to better inform cervical cancer elimination strategy	-	312,500	1,149,900	-	649,000	-	649,000	2,760,400
Strategic Objective 6: Promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer response								
Priority area 1: Promote a whole-of-society commitment to cervical cancer elimination through intersectoral collaboration and partnerships	-	409,500	10,500	10,500	10,500	10,500	10,500	462,000
Priority area 2: Secure sufficient and sustainable funding for the implementation of the cervical cancer elimination strategy	-	183,500	-	-	-	-	-	183,500
Grand Total	**13,220,599**	**151,960,670**	**129,639,694**	**224,262,977**	**42,155,678**	**37,321,884**	**37,847,884**	**636,409,385**

1. Strategic Objective 1: Focuses on health systems governance and coordination, with a total cost of E14.7 million. Most of this cost is allocated to improving governance (E13.1 million), while a smaller portion is for promoting the quality of cervical cancer services (E1.6 million).
2. Strategic Objective 2: Targets scaling up HPV immunization to reach 90% coverage, with a total cost of E62.8 million. A large part of this is for optimizing HPV vaccination coverage (E42.5 million), while community awareness and education accounts for E20.3 million.
3. Strategic Objective 3: Aims to increase cervical cancer screening coverage and treatment for pre-cancerous lesions, with a total cost of E103.9 million. The majority is allocated to ensuring a supply of quality HPV/DNA test kits (E87.1 million), with the remainder focused on increasing screening coverage (E16.3 million) and developing screening guidelines (E454,000).
4. Strategic Objective 4: Involves improving access to diagnosis, treatment, rehabilitation, and palliative care, with the largest share of the total cost at E445 million. Major expenditures include improving access to medical imaging and pathology services (E186.2 million) and expanding treatment services (E177 million). Palliative care (E23.5 million) and workforce development (E55.6 million) also receive significant funding.
5. Strategic Objective 5: Enhances the capacity for monitoring and evaluation at a cost of E9.3 million, with key investments in a cancer elimination digital platform (E4.4 million) and cervical cancer research (E2.7 million).
6. Strategic Objective 6: Focuses on promoting intersectoral collaboration and resource mobilization, with a total cost of E645,500, primarily for partnership development (E462,000) and ensuring sustainable funding(E183,500).

The cost distribution highlights the strategic focus on scaling up treatment and screening services, which make up the largest portions of the budget. This reflects the overall goal of increasing access to comprehensive cervical cancer prevention, treatment, and care services.

Chapter 6: Implementation, monitoring and evaluation framework

The monitoring of the progress towards the elimination goals will be led by the Ministry of Health through M&E Unit in collaboration with National Cancer Control Unit with support from the Cervical Cancer Elimination Task Force composed of experts from different areas of cervical cancer control, which will carry out the collection, interpretation, and analysis of the indicators detailed in this chapter.

Implementation monitoring reports will be prepared annually by the National Cancer Control Unit and endorsed by the TWG before submission to the Director General of Health Services for endorsement and then dissemination to all stakeholders.

Mid-term review of the implementation of the national strategy for the elimination of cervical cancer will be conducted in 2027, coordinated by the Ministry of Health. The objectives and interventions for the years 2028-2030 will be adjusted according to the results of the mid-term review and the final evaluation will be done at the end of 2030.

To monitor the global progress towards the elimination of cervical cancer, WHO recommends the collection of performance results and impact indicators. The performance indicators are related to HPV immunisation coverage, coverage of screening, and treatment of precancerous lesions and invasive cervical cancer. The impact indicator assesses the reduction in the incidence of cervical cancer.

The majority of data to calculate the performance indicators are collected at the health facility level thus the importance of establishing strong and connected data collection systems across different levels of the healthcare system.

6.1. Global cervical cancer elimination indicators.

Global indicators are a small number of indicators that are standardised across countries for global monitoring of the progress towards the elimination of cervical cancer and should serve as a benchmark to the national indicators.

Table 4: Global cervical cancer elimination indicators

Indicator		Target by 2030
HPV vaccine coverage rate	Percentage of girls who have received all the doses of the HPV vaccine by the age of 15 years	90%
Screening coverage	Percentage of women aged 30–49 who have been screened with a high-performance test for the first time	70%
Treatment rate for women with pre-cancer	Percentage of women identified with having pre-cancerous lesions that receive treatment	90%
Treatment rate for invasive cervical cancer	Percentage of women identified with having invasive cervical cancer that receive treatment	90%

Cervical cancer elimination targets in Eswatini

based on the existing baselines and aligned with the global targets.

The table below proposes the annual targets for global cervical cancer elimination indicators in Eswatini

Table 5: Eswatini cervical cancer elimination indicators

Indicator	Baseline (2024)	2025	2026	2027	2028	2029	2030
Percentage of girls who have received the HPV vaccine by the age of 15 years	72%	90%	90%	90%	90%	90%	90%
Percentage of women aged 25–49 who have been screened with a high-performance test for the first time	< 5%	10%	20%	40%	50%	60%	70%
Percentage of women identified with having pre-cancerous lesions that receive treatment	65%	80%	85%	90%	90%	90%	95%
Percentage of women identified with having invasive cervical cancer that receive treatment	58%	60%	70%	75%	80%	85%	90%

- The HPV immunisation was introduced in June 2023 with encouraging results of 72%, the program is expected to mature quickly to reach the 90% target by 2026 and maintain it over time.
- The coverage of cervical cancer screening services will increase progressively according to availability of resources to procure HPV/DNA kits and related consumables, increased awareness on cervical cancer prevention, organised population-based mass screening campaign and increase in trained human resources able to deliver those services. Based on the data from the NCCU, the treatment coverage for precancerous lesions is at 65% and will increase progressively to reach 95% by 2030.
- The treatment coverage for invasive cervical cancer will also gradually increase as standard treatment services are being established in the country. We expect to have a full functional comprehensive cancer centre by the year 2028 that will allow patients to get all needed services in the country.

6.2. National cervical cancer service delivery indicators

The National Cancer Control Unit in collaboration with the M&E Unit at MoH will track facility indicators through the established reporting systems. Data aggregated across facilities will be used to calculate key national indicators for monitoring the progress towards the elimination of cervical cancer. All indicators will be stratified by HIV status. Health facilities will be given the number of eligible girls for vaccination and number of women eligible for screening in its catchment area to help them tracking their performance vis a vis the set targets.

Table 6: National Cervical cancer service delivery indicators

Variable	Indicator	Disaggregation	Data source	Frequency
HPV immunisation rate	Percentage of girls who have received all the doses of the HPV vaccine by the age of 15 years	HIV Status, Age	CMIS, Immunization registers	Annually
Screening rate (Screening test: HPV DNA)	Percentage of women aged 30–49 years who have been screened for the first time with HPV-DNA test (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
Screening rate (Screening test: VIA)	Percentage of women aged 30–49 years who have been screened for the first time with VIA (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
Screening rate (Screening test: Pap Smear)	Percentage of women aged 30–49 years who have been screened for the first time with Pap smear (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly

Variable	Indicator	Disaggregation	Data source	Frequency
Screening test positivity rate (Screening test: HPV DNA)	Percentage of screened women aged 30–49 years with a screen-positive result (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
VIA positivity rate in HPV positive women	Percentage of women with aged 30-49 years who are HPV positive, screened VIA positive on triage (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
Screening test positivity rate (Screening test: VIA)	Percentage of screened women aged 30–49 years with a screen-positive result (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
Screening test positivity rate (Screening test: Pap Smear: CIN2 and CIN3)	Percentage of screened women aged 30–49 years with a screen-positive result (start at 25 years in HIV-positive)	HIV Status, Age	CMIS, Screening Registers	Monthly
Precancerous lesions treatment rate (Treatment: thermal ablation)	Percentage of screen-positive women with lesions eligible for thermal ablation who have received that treatment	HIV Status, Age	CMIS, Screening Registers	Monthly
Precancerous lesions treatment rate (Treatment: LEEP/LLETZ)	Percentage of screen-positive women with lesions eligible for LEEP/LLETZ who have received that treatment	HIV Status, Age	CMIS, Screening Registers	Monthly
Post treatment follow up rate	Percentage women attending the follow up visit 1 year the post treatment	HIV Status, Age	CMIS, Screening Registers	Monthly
Suspected cancer cases	Number of consulting women with suspicion of invasive cervial cancer	HIV Status, Age	CMIS, Screening Registers	Monthly
Suspected cancer referral	Percentage of women referred for suspected cervical cancer for further investigations	HIV Status, Age	CMIS, Screening Registers	Monthly
Suspected cancer referral compliance	Percentage of women referred for suspected cervical cancer for further investigations who attended the referral visit	HIV Status, Age	CMIS, Screening Registers	Monthly
Biopsy collection	Number of cervical biopsy collected and sent to the pathology laboratotory	HIV Status, Age	CMIS, Screening Registers	Monthly
Biopsy result feedback	Percentage of biopsies sent to pathology lab with results received	HIV Status, Age	CMIS, Screening and Pathology registers	Monthly

Variable	Indicator	Disaggregation	Data source	Frequency
Number of invasive cervical cancer cases	Number of women confirmed with invasive cervical cancer	HIV Status, Age	CMIS, Screening and LIS, Cancer registry	Annually
Medical imaging for staging	Percentage of women with invasive cervical cancer receiving medical imaging for staging as per the national protocols	HIV Status, Age	CMIS, Cancer registry	Annually
Treatment rate_ Surgery	Percentage of women with invasive cervical cancer eligible for surgery receiving surgery as per the national guidelines and protocols	HIV Status, Age	CMIS, Cancer registry	Annually
Treatment rate _Radiotherapy	Percentage of women with invasive cervical cancer eligible for surgery receiving radiotherapy as per the national guidelines and protocols	HIV Status, Age	CMIS, Cancer registry	Annually
Treatment rate _ Chemotherapy	Percentage of women with invasive cervical cancer eligible for surgery receiving chemotherapy as per the national guidelines and protocols	HIV Status, Age	CMIS, Cancer registry	Annually
Treatment plan compliance	Percentage of women with invasive cervical cancer completing the treatment as per the treatment plan	HIV Status, Age	CMIS, Cancer registry	Annually
Palliative care treatment rate	Percentage of women with invasive cervical cancer receiving palliative care services per the guidelines	HIV Status, Age	CMIS, Cancer registry	Annually
Morphine Availability	Percentage of healthcare facilities with a consistent supply of morphine for pain management	Type of facility	Facility Pharmacy, Central Medical Stores	Quarterly

6.3 Results M&E framework indicators

The monitoring and evaluation of the implementation of the National Cervical Cancer Elimination Plan will be guided by the below M&E framework. The framework has been designed to include indicators to measure impact, outcomes and output of the interventions and activities as outlined in the strategy and implementation/action plan where more details on different interventions and activities will be found. For each indicator, milestones have been estimated using available source of information and anticipated capacity that will be built to improve the availability of required services. Where milestones are not available, the cancer control unit through surveys and assessments will identify them and fill them in the framework. It is important to note that the framework is aligned to the proposed framework for monitoring the implementation of the WHO Global Strategy to accelerate the elimination of cervical cancer as a public health problem.

Table 7: M&E Framework

Result	Objective	Indicator	Definition	Numerator	Denominator	Baseline	2025	2026	2027	2028	2029	2030	Data Source	Disaggregation	Frequency
Impact	Reduce cervical cancer incidence rate	Incident cases/ incidence (numbers of new cases and rates) of cervical cancer	Recorded numbers and rates (age-specific, crude, age standardized) of new cervical cancer in a year	Recorded numbers of new cervical cancer in a year	Population-at-risk: number of women in the concerned year	**371**: Crude **95.9** Incidence rate	TBD	TBD	TBD	TBD	TBD	TBD	National Cancer Registry	Age, stage at diagnosis, HIV status, residence type (rural/ urban) and Region	Annually
	Reduce cervical cancer mortality rate	Numbers and rates of cervical cancer deaths for the year indicated	Recorded numbers and rates (age-specific, crude, age standardized) of cervical cancer deaths for the year indicated	Recorded numbers of cervical cancer deaths	Population-at-risk: women	**269** : Crude **64.3** : Mortality rate	TBD	TBD	TBD	TBD	TBD	TBD	National Cancer Registry, CRVS	Age, stage at diagnosis, HIV status, residence type (rural/ urban) and Region	Annually
Outcome	Scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030	HPV vaccination coverage among girls aged 9 to 14 years	Proportion of girls aged 9 to 14 years that received HPV vaccine in the current reporting year	Number of girls aged 9 to 14 years that received HPV vaccine in the current reporting year	Number of girls in the national target cohort(s) aged 9 to 14 years in the current reporting year	73%	90%	90%	90%	90%	90%	90%	Immu-nization registries, CMIS, HMIS Census data	Age, HIV status, residence type (rural/ urban) and Region	Annually
		Level of knowledge, attitude and Practice on cervical cancer prevention in the population	Proportion of the population with adequate knowledge, attitude and practise on cervical cancer prevention	Number of surveyed people with adequate knowledge, attitude and practice on cervical cancer prevention	Number of people who participated in the survey (representative sample)	TBD	TBD	TBD	TBD	TBD	TBD	95%	KAP Survey, STEPS	Age, Sex and Residence (rural/ urban), Regions	5 years

Result	Objective	Indicator	Definition	Numerator	Denominator	Baseline	2025	2026	2027	2028	2029	2030	Data Source	Disaggregation	Frequency
Outcome	Increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030	Cervical cancer screening coverage among women aged 30-49 years (start at 25 years in WLHIV)	Proportion of women aged 30–49 years who have been screened at least once with a cervical cancer screening test	Number of women aged 30–49 years who have been screened with a cervical cancer screening test at least once between the ages of 30 and 49 years, using any of these methods: VIA, Pap smear and HPV test	Total number of women aged 30–49 years in the population	45%	55%	65%	75%	80%	85%	90%	CMIS, Screening registries and HFs reports	Age, HIV status, screening method, residence type (rural/ urban), Regions	Annually
		Cervical cancer screening coverage among women aged 30-49 years using a high-performance test (HPV DNA) (start at 25 years in WLHIV)	Proportion of women aged 30–49 years who been screened for cervical cancer with a high-performance test at least once between the ages of 30 and 49 years.	Number of women aged 30-49 years screened using a high-performance test	Total number of women aged 30–49 years	<5%	10%	20%	40%	50%	60%	70%	CMIS, Screening registries and HFs reports	Age, HIV status, Residence (rural/ urban), Regions	Annually
		Cervical pre-cancer treatment rate	Proportion of screen-positive women with lesions eligible for ablative or excision treatment who received that treatment in the previous 12-month period. Treatment options include thermal ablation, cryotherapy and LEEP	Number of screen-positive women with lesions eligible for ablative or excision treatment who received that treatment in the previous 12-month period	Number of screen-positive women with lesions eligible for ablative or excision treatment in the previous 12-month period	56%	65%	70%	80%	90%	90%	90%	CMIS, Screening registries and HFs reports	Age, HIV status, treatment type, Residence (rural/ urban) Region	Annually

Result	Objective	Indicator	Definition	Numerator	Denominator	Baseline	2025	2026	2027	2028	2029	2030	Data Source	Disaggregation	Frequency
Outcome	Improve access to diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030	Cervical cancer laboratory diagnosis rate	Proportion of cervical cancer biopsies reported within 15 days after receiving samples in the laboratory	Number of cervical biopsies received at the pathology laboratory and reported within 15 days in the reporting period	Total number of cervical biopsies received at the pathology laboratory in the reporting period	TBD	TBD	TBD	TBD	TBD	TBD	95%	Cancer registry, CMIS, LIS	Age group, HIV Status, and Residence (rural/urban)	Annually
		Cervical cancer patients access to medical imaging for staging	Proportion of cervical cancer patients access medical imaging (CT and or MRI) for staging within 30 days after receiving pathology results	Number of confirmed cervical cancer patients receiving medical imaging exams for staging within 30 days after receiving the results in the reporting period	Total number of confirmed cervical cancer patients in the reporting period	TBD	TBD	TBD	TBD	TBD	TBD	90%	Cancer Registry, CMIS	Age group, Type staging exam, HIV Status, Stage and Residence (rural/urban)	Annually
		Invasive cervical cancer prompt treatment rate	Proportion of patients with invasive cervical cancer receiving the treatment as per the national guidelines and protocols within 90 days after diagnosis	Number of women treated with cervical cancer within 90 days post diagnosis	Number of women diagnosed with invasive cervical cancer	TBD	TBD	TBD	TBD	TBD	TBD	90%	Cancer registry, CMIS	Age group, Type of treatment, HIV Status, Stage and Residence (rural/urban)	Annually
		Invasive cervical cancer treatment rate	Proportion of women with invasive cervical cancer who have received treatment in a given time period	Number of women treated with cervical cancer	Number of women diagnosed with invasive cervical cancer	58%	60%	70%	75%	80%	85%	90%	Cancer registry, CMIS	Age group, Type of treatment, HIV Status, Stage and Residence (rural/urban)	Every 2 years
		Reported annual opioid consumption -excluding methadone- in oral morphine equivalence per capita	Opioid consumption is based on the amount of opioids (in milligrams/ capita/ year in oral morphine equivalence or OME), excluding methadone, distributed legally in the country for medical use to health care institutions and programmes that are licensed to dispense to patients, such as hospitals, nursing homes, pharmacies, hospices and palliative care programmes.	Opioid consumption milligrams in a specified year, excluding methadone in OME	Estimated population in the specified year	TBD	TBD	TBD	TBD	TBD	TBD	TBD	CMIS, Medical products supply chain reports, HMS	Opioids (morphine, fentanyl, hydromorphone, codeine, oxycodone and pethidine)	Annually

Result	Objective	Indicator	Definition	Numerator	Denominator	Baseline	2025	2026	2027	2028	2029	2030	Data Source	Disaggregation	Frequency
Output	Improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services	Increased capacity of the National Cancer Control Unit (NCCU) to coordinate the implementation of the elimination plan	Proportion of filled approved positions on the organigram for NCCU	Number of positions filled with staff on the organigram of the NCCU	Number of staff positions on the organigram of NCCU	TBD	TBD	TBD	TBD	TBD	TBD	100%	MoH and Cancer program annual reports	NA	Annually
			Availability of a functional National Cervical cancer elimination task force	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Quarterly
			Availability of a functional National high level Multisectoral committee on cervical cancer	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Semi-annually
			Availability of functional regional cervical cancer elimination committees	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Quarterly
			Availability of updated National Cervical cancer screening and treatment guidelines	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Every 2 years
			Availability of cervical cancer services accreditation guidelines and SoPs	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Every 5 years
		Increased quality of cervical cancer care services at all levels of the healthcare system	Availability of cervical cancer services quality assurance and quality control frameworks	NA	NA	No	Yes	Yes	Yes	Yes	Yes	Yes	MoH and Cancer program annual reports	NA	Every 5 years
			Adequante number of staff with required skills and expertise to provide cervical cancer services at all levels of the health care system	Number and type of staff available at different levels of health care system as per standards these include Nurses, lab technician, Gyneocologists, Gyne-oncologist, Pathologists, Clinical oncologists...)	Number and type of staff required at diddrent levels to provide cervical cancer servces	TBD	TBD	TBD	TBD	TBD	TBD	90%	Health faciities readiness survey	Category of HF, Category of staff	Annually

Result	Objective	Indicator	Definition	Numerator	Denominator	Baseline	2025	2026	2027	2028	2029	2030	Data Source	Disaggregation	Frequency
Output	Increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030	Cervical cancer screening coverage at Heath Facilities	Proportion of Health facilities providing cervial cancer screening services as per the national standards and guidelines	Number of health facilities providing cervical cancer screening services per the national package of services and guidelines (availability and training of staff, equipment, space..)	Number of health facilities in the country supposed to provide cervical cancer screening services	TBD	TBD	TBD	TBD	TBD	TBD	100%	Health faciities readiness survey, CMIS, HMIS	Category of HF, Regions	Every 2 years
Output	Enhance capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research	Quaity of reported cervical cancer data	Proportion of health facilities reporting quality cervical cancer data	Number of health facilities reporting cervical cancer data	Number health facilities reporting cervical cancer data with no discrepancies	TBD	TBD	TBD	TBD	TBD	TBD	>95%	RDQA reports. CMIS.HMIS	Category of HF, Regions	Quarterly
Output	Promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer response	Domestic financing rate for cervical cancer response	Proportion of domestic budget allocated to cervical cancer interventions	Annual domestic budget allocated to cervical cancer interventions at different levels	Total annual budget for cervical cancer interventions	TBD	TBD	TBD	TBD	TBD	TBD	70%	Health sector budget and expenditures	Source of funds and Cervical cancer response component	Annually

*: Estimated age standardized incidence rate is from Globocan 2022. The crude incidence was obtained from the national cancer registry

**: The crude mortality and age standardized mortality rate are from the Globocan 2022.

6.4. Implementation framework

The implementation of the Cervical Cancer Elimination Strategy 2024-2030 in Eswatini will involve multiple stakeholders, each playing a crucial role in ensuring the success of the program. The following is a summary of the key roles and responsibilities of the various entities involved:

1. National Cancer Control Unit (NCCU) under the Ministry of Health:

The NCCU will serve as the primary body for technical coordination, overseeing the implementation of the strategy. It will be responsible for coordinating all cervical cancer prevention, screening, treatment, and monitoring activities across the healthcare system. The NCCU will also manage capacity-building initiatives, such as training healthcare workers, ensuring that health facilities are equipped to provide cervical cancer services, and strengthening governance structures for service delivery.

2. High level multisectoral committee

The high-level committee will provide strategic guidance to ensure the alignment of the cervical cancer elimination plan with broader national health priorities. The committee will consist of representatives from various sectors, including government ministries, private sector entities, and civil society organizations (CSOs). Its role is to facilitate intersectoral collaboration, address policy bottlenecks, and ensure the mobilization of resources and support from various sectors.

3. Cervical Cancer Elimination Task Force

The task force will provide technical guidance and serve as a scientific advisory body. Composed of clinical experts, public health specialists, and research professionals, the task force will guide the development of clinical protocols, quality standards, and performance benchmarks for cervical cancer services. It will also support the adaptation of new technologies and approaches in screening, diagnosis, and treatment.

4. Healthcare Facilities and Providers:

Healthcare providers at all levels (from community health workers to specialists) are responsible for service delivery, including screening, diagnosis, treatment, and palliative care. They also play a key role in community outreach and education, increasing awareness of cervical cancer prevention and screening services. Continuous training and mentorship for healthcare workers ensures the delivery of quality care.

5. Non-Governmental Organizations (NGOs) and Civil Society Organizations (CBOs):

Non-governmental organizations and civil society organizations will be vital in community mobilization and ensuring that information on cervical cancer prevention, screening, and treatment reaches underserved populations. They will conduct public awareness campaigns, assist with community education, and work closely with cervical cancer survivors and advocacy groups to promote access to services. NGOs will also support capacity building efforts, especially for community health workers.

6. Development Partners and donors

Development partners and donors provide the essential funding required for the successful rollout of the strategy, supporting the procurement of HPV vaccines, screening kits, and diagnostic equipment, while also financing public awareness campaigns and infrastructure development. Their financial contributions are critical for achieving the coverage goals outlined in the strategy.

7. Educational Institutions and Research Bodies

Academic institutions are involved in training healthcare professionals in oncology-related fields and conducting research on cervical cancer prevention, treatment, and care. These institutions are also key to capacity building for health professionals and supporting the establishment of research agendas that inform policy.

8. Other Ministries and public institutions

Other related government institutions, such as the Ministry of Education, assist with school-based HPV vaccination campaigns, while the Ministry of Finance plays a key role in budget allocation and resource mobilization.

9. Faith-Based and Traditional Leaders

These leaders play a crucial role in community engagement, supporting cervical cancer prevention messages and ensuring cultural relevance in communication strategies. Their involvement strengthens community trust in health initiatives, particularly in rural areas.

10. Private Sector

The private sector contributes through public-private partnerships, helping to establish specialized cancer diagnostic and treatment services, such as medical imaging and radiotherapy, within the country's healthcare infrastructure

Together, these stakeholders will form a coordinated and collaborative framework to ensure the successful execution of the cervical cancer elimination strategy

Table 8: Implementation matrix

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Strategic Objective 1: Improve the health systems governance and coordination mechanism for the delivery of integrated quality cervical cancer care services							
Priority area 1: Improve health systems governance and coordination for effective coordination and implementation of cervical cancer elimination plan							
Assess the capacity building needs for the existing NCCU team and provide tailored training opportunities	X	X	X	X	X	X	X
Assess the staffing, infrastructure and equipment capacity of health facilities to provide cervical cancer elimination interventions according to the national standards	X						
Establish a multidisciplinary and multi-sector national cervical cancer elimination task force (technical and scientific team)	X	X	X	X	X	X	X
Establish regional level coordination committees to strengthen the governance of cervical cancer services delivery	X	X	X	X	X	X	X
Increase the capacity of the National Cancer Control Unit (NCCU) filling vacant positions within the NCCU organogram	X	X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Priority area 2: Promote the quality of cervical cancer care services at all levels of the healthcare system							
Develop a standardised package of services for cervical cancer prevention of control at all levels of healthcare system	X						
Develop and implement a quality assurance system for cervical cancer screening, diagnosis and treatment services		X	X	X	X	X	X
Develop and implement an integrated care model for cervical cancer prevention and control services into existing health care system focusing on maternal and child health, and HIV services.		X	X	X	X	X	X
Establish an accreditation system for cervical cancer prevention, screening, diagnosis, treatment and palliative care and survivorship services at different levels of the healthcare system		X	X	X	X	X	X
Initiate a performance-based financing (incentivization) system to reward high performing health facilities focusing on cervical cancer quality care indicators		X	X	X	X	X	X
Strategic Objective 2: Scale up HPV immunisation in young girls aged 9 to 14 years old to achieve a population coverage of 90% by 2030							
Priority area 1: Community awareness, information, and education about cervical cancer prevention.							
Review existing cervical cancer communication materials and messages to ensure the content is tailored to the needs and context of different groups of the population including the healthcare workforce, non-governmental organizations, patients, women, adolescents, youth, and sex workers	X	X					
Build the capacity of media personnel, teachers, and health workers in effective messaging of cervical cancer prevention messages	X	X	X	X	X	X	X
Conduct community awareness campaigns to sensitize the public on the prevention of cervical cancer across the four regions of the country.	X	X	X	X	X	X	X
Educate traditional and social media, including local celebrities, champions, and social media influencers, to effectively run public education campaigns and disseminate cervical cancer information widely	X	X	X	X	X	X	X
Engage and capacitate cervical cancer survivor groups and women's advocacy groups to promote awareness and education initiatives to increase awareness on cervical cancer prevention and screening and timely access and adherence to treatment service	X	X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Engage and educate Community health workers and community leaders to rally support within local communities toward cervical cancer elimination.	X	X	X	X	X	X	X
Priority area 2: Optimize the coverage for HPV vaccination in young girls							
Implement school-based vaccination as the main delivery strategy, and explore additional delivery platforms for out-of-school or other hard-to-reach populations	X	X	X	X	X	X	X
Conduct social mobilization for HPV vaccination including public awareness events and community sensitization meetings	X	X	X	X	X	X	X
Ensure multi-stakeholder and inter-sectoral government commitments for the nationwide rollout and implementation of the HPV vaccination program	X	X	X	X	X	X	X
Establish a digital vaccine delivery monitoring system including documenting and reporting of adverse events following immunisation		x					
Plan for and ensure an adequate budget to procure HPV vaccines and consumables as part of the overall national cervical cancer elimination commitment	X	X	X	X	X	X	X
Review and update the national HPV vaccination guidelines and SoPs informed by scientific evidence on HPV vaccine effectiveness		X					
Strengthen the supply chain systems (procurement, storage and distribution) for HPV vaccines and related consumables	X	X	X	X	X	X	X
Strategic Objective 3: To increase the coverage of and access to cervical cancer screening services for eligible women using a high-performance test to reach a screening coverage of 70% and 90% treatment of pre-cancerous lesions by 2030							
Priority area 1: National standard guidelines and protocols for cervical cancer screening							
Review and update relevant clinical and programmatic guidelines and protocols on cervical cancer screening and treatment of precancerous lesions in line with WHO recommendations		X					
Review on bi-annual basis local and international scientific evidence on current methods for cervical cancer screening and update the guidelines accordingly				X			X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Priority area 2: Increase the quality and coverage of cervical cancer screening services							
Strengthen integrated delivery of cervical cancer screening services with women's health services(e.g HIV, breast cancer, and other cancer and non-communicable diseases screening activities).		X	X	X	X	X	X
Adopt new technologies like Artificial Intelligence (Automated Visual Evaluation) as they are approved for use in clinical practice.		X			X		
Build the capacity for health care providers at all levels on updated cervical cancer screening guidelines and protocols (Community Health Workers, Nurses, Midwives, Clinical Officers, Medical Officers, Gynaecologist, laboratory scientists...) in the framework of scaling up cervical cancer services in all health facilities		X	X				
Capacity building for midwives, and medical officers in colposcopy and LEEP for treatment of advanced cervical cancer lesions in the framework of task shifting.		X				X	
Carry out regular clinical mentorship at all levels of the cervical cancer screening services delivery to ensure the quality of services is maintained.	X	X	X	X	X	X	X
Develop and implement the community mobilisation strategies involving CHWs, CSOs, Cancer survivors, Traditional leaders, Celebrities, Religious leaders to sensitize and link eligible women to cervical cancer screening services		X	X	X	X	X	X
Establish quality assurance system for HPV testing, VIA and treatment of precancerous lesions		X					
Integrate and strengthen HPV and biopsy sample transportation from the collection sites to the testing sites within the existing National Sample Transportation System and results feedback mechanisms.		X	X	X	X	X	X
Integrate cervical cancer screening and treatment of precancerous lesions in the pre-service training curriculum for nurses, midwives, clinical officers and medical officers.		X					
Strengthen the referral and linkage to care for women suspected or confirmed to have cervical cancer to ensure timely diagnosis and treatment.		X	X	X	X	X	X
Strengthen the referral and linkage to care for women with pre-cancerous lesions for non-treatment sites	X	X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Use digital solutions in the delivery of cervical cancer screening services (invitation of women to get screened, for registration, delivery of the results, and follow up)		X	X	X	X	X	X
Priority area 3: Ensure an affordable supply of quality-assured, HPV/DNA test kits, screening consumables, equipment and materials							
Ensure a continuous supply of needed consumables for health facilities to conduct cervical cancer screening services including VIA, Pap smear, LEEP consumables.		X	X	X	X	X	X
Plan and ensure an adequate budget to procure HPV testing tests kits in accordance with the cervical cancer elimination implementation plan.		X	X	X	X	X	X
Equip health facilities with required equipment and materials to provide cervical cancer screening services based on the need and level of care. These materials include specula, thermal ablation devices, LEEP machines, Colposcopes, Biopsy kits, …		X	X				
Strategic Objective 4: To improve access to diagnosis, treatment of invasive cervical cancer, rehabilitation, and palliative care services to achieve at treatment coverage of 90% by 2030							
Priority area 1: National standard guidelines and protocols for diagnosis and treatment of cervical cancer.							
Conduct the capacity building for health care providers on the new cervical cancer diagnosis and treatment guidelines and protocols		X	X	X	X	X	X
Establish a functional multidisciplinary tumour boards in health facilities diagnosing and treating cancer to ensure timely treatment interventions to improve the quality of care and foster a patient centered approach to care.	X	X	X	X	X	X	X
Review and update standardised clinical and programmatic guidelines and protocols for cervical cancer diagnosis and treatment in line with local and international scientific evidence based interventions and WHO recommendations.	X	X					
Review on bi-annual basis local and international scientific evidence on current methods for cervical cancer treatment and update the guidelines accordingly				X			X
Priority area 2: Improve equitable access to pathology and medical imaging services for cervical cancer patients.							
Ensure uninterrupted supply of laboratory consumables and regular maintenance of equipment.	X	X	X	X	X	X	X
Establish tele-radiology systems for remote reporting to facilitate quick staging and timely initiation of the treatment.		X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Recruit medical imaging professionals for radiology departmentscenters without radiologists and capacitate existing radiographers on CT and MRI sub-speciality.		X	X	X	X	X	X
Strengthen the cervical cancer sample transportation system from regional hospitals to the national referral laboratory and establish an efficient results feedback mechanism.		X	X	X	X	X	X
Strengthen the Pathology laboratory team by training existing personnel and through recruiting additional Pathologists and cytologists to satisfy the increasing demand.	X	X	X	X	X	X	X
Strenthen existing quality assurance and control mechanisms to ensure the quality of reported results, and attain accreditation from SADCAS (Southern African Development Community Accreditation Service).		X		X		X	
Increase access to medical imaging services for timely staging of cervical cancer patients. Establish new 5 CT scans and 2 MRIs		X	X	X			
Priority area 3: Improve equitable access to quality cervical cancer treatment services: Surgery, radiation therapy and chemotherapy systemic therapy.							
Advocate for the the prioritization of cervical cancer patients in the referral systems within the Phalala medical fund to ensure timely access to curative treatment.	X	X	X	X	X	X	X
Recruit gynae-oncologists to provide quality management to cervical cancer patients, capacitate existing gynecologists and general practitioners on gyne-oncology management.		X	X	X	X	X	X
Strengthen the supply chain for cervical chemotherapy drugs and related consumables.	X	X	X	X	X	X	X
Upgrade the cervical cancer surgical capacity at the existing tertiary facilities by providing : adequate space (theatres, beds including ICU), surgical equipment and human resource.		X	X				
Establish a National Radiotherapy Center at Manzini Cancer Hospital to enable the provision of comprehensive cancer treatment services in the country		X	X	X	X		
Priority area 4: Improve access to palliative care, rehabilitative and psychosocial support services for cervical cancer patients.							
Optimize morphine supply through needs assessment, strengthened procurement, and streamlined distribution to ensure consistent access to adequate pain management for all cervical cancer patients		X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Strengthen the integration of palliative care services into existing health care systems including the community and home-based care programmes.	X	X	X	X	X	X	X
Strengthen the psychological, social, nutritional and spiritual support services to provide holistic care to patients and their families	X	X	X	X	X	X	X
Priority area 5: Workforce development for cancer and cervical cancer care							
Establish government partnerships with international institutions to facilitate the urgent training of healthcare workers in related oncology fields.		X					
Strengthen existing platforms for continuous medical education and ensure the inclusion of cervical cancer in the training curriculum		X	X				
Train adequate number of staffs for quality cervical cancer management as per the existing national cancer care training plan: Select urgent positions		X	X	X	X		
Strategic objective 5: Enhance the capacity for monitoring and evaluation for cervical cancer prevention and control services at all levels for performance tracking, and research							
Priority area 2: Establish a national cervical cancer elimination digital platform and enhance the national cancer registry							
Explore the use of DHIS2 tracker in cancer registration to enable reporting of individual cancer cases and reduce the budget and time used in active data abstraction and recording		X					
Increase the staffing capacity for the National Cancer Registry for timely data collection and reporting		X	X	X	X	X	X
Review and enhance the CMIS to collect inter-connected information on HPV vaccination, Screening and Cervical cancer to enable tracking uptake of interventions throughout the continuum of care		X					
Priority area 3: Promote cervical cancer research to better inform cervical cancer elimination strategy							
Develop and implement a national cervical cancer research agenda prioritising implementation science economic and financial studies as well as clinical trials.		X					
Build the capacity of existing teams at NCCU, RHMT and Stakeholders in conducting cervical cancer research			X				

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Organise bi-annual national cervical cancer research conference including regional and international researchers to share best practices and new evidence in the field of cervical cancer prevention and control			X		X		X
Priority area1: Strengthen the capacity of the existing HMIS and CMIS to generate high quality data on cervical cancer programs across the continu - um of care							
Update the existing indicators into CMIS to include missing cervical cancer elimination indicators	X	X					
Build the capacity of health care providers and data manager officers at all levels in M&E of cervical cancer elimination plan		X	X				
Conduct annual national cervical cancer symposium putting together key stakeholders to review and share the progress of the implementation of the elimination plan		X	X	X	X	X	X
Conduct quarterly cervical cancer data quality audits, data reviews at all levels of the healthcare system.	X	X	X	X	X	X	X
Conduct regular clinical mentorship and supportive supervision at all levels of healthcare delivery to improve the quality of reported data.	X	X	X	X	X	X	X
Strategic Objective 6: Promote intersectoral collaboration, partnerships and resource mobilisation for a sustainable financing of cervical cancer re - sponse							
Priority area 1: Promote a whole-of-society commitment to cervical cancer elimination through intersectoral collaboration and partnerships							
Develop an online cervical cancer elimination information platform serving as an updated repository for information for providers, patients, and partners on cervical cancer elimination policies, programs, and services.		X					
Establish a high level multi sectoral committee including key public institutions, private sector, international and national NGOs, Faith based organizations, academia... serving as platform for cervical cancer elimination dialogue		X	X	X	X	X	X
Mainstream cervical cancer prevention and control into different sectors as a cross-cutting issue where all relevant institutions should implement minimal interventions around the elimination of cervical cancer		X	X	X	X	X	X

Strategic Objecives, Priority areas and Priority Interventions	2024	2025	2026	2027	2028	2029	2030
Priority area 2: Secure sufficient and sustainable funding for the implementation of the cervical cancer elimination strategy							
Create a cervical cancer elimination challenge fund and mobilise domestic and international funders to channel the resources for elimination interventions		X					
Increase domestic funding for the sustainability of cervical cancer prevention and control interventions, and develop resource mobilisation plan for domestic and international resources.	X	X	X	X	X	X	X
Promote Public and private partnerships in establishing specialised services for cancer/cervical cancer diagnosis and treatment		X	X	X	X	X	X

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